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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Quotation of the Week
Gag of the Week
Memo to Salesmen
Profound Reason for Our Services
Listen for a Plaintive Tune
Polyandry or Polygamy?
Lever Bros. Philosophy
Better Than Money
A Refrigeration Saga
Last Gag of the Week

Stories of the Week

Arm-in-arm, a priest, a rabbi, and a minister strolled down a street in the district they all "covered."

The Methodist minister was first to spy a newly-redecorated home which had been vacant.

"Ah," he happied. "A new parishioner, possibly." So he entered this home, and looked around. Shortly he came out, and discomfittedly reported:

"Not a Methodist family, I presume. No Bible in evidence."

Father O'Brien next took a look. He, too, came back disconsolate.

"They aren't Catholics," he reported. "No Crucifix."

Confidently Rabbi Goldberg surveyed the situation. He also was disappointed.

"Isn't a Jewish family," he sighed. "No wall-to-wall carpeting."

For Sir Winston Churchill, on the occasion of his U. S. 1954 pilgrimage, Washington newspaper and radio-TV correspondents staged a luncheon. Price: four bucks per plate.

To a Boston writer—a real gone professional Irisher — the cost seemed outrageous.

"Don't tell me," he fumed, "we are going to give him a purse!"

"Have you heard the news? Peg and Greg are engaged."

"Wha-a-at? Hard to believe. I always thought Peg was a career girl who never wanted to marry."

"That's what Greg thought, too."

Quotation of the Week

"On hot days I'd rather be in an air conditioned office in Manhattan than under a non-conditioned maple tree in the country. And what did we ever do before air conditioning?" — DOROTHY KILLGALLEN, nationally syndicated newspaper columnist and TV star.

Gag of the Week

Granmaw gets restless when her grandchildren bring home Horror comic books. While reading them she forgets to turn on the TV set in time to revel in the wrestling exhibitions.

Memo to Salesmen

So far this year:

98% of the families in America did not move into new homes or apartments.

98% did not buy a food freezer.

97% did not buy a room air conditioner.

94% did not buy a vacuum cleaner.

94% did not buy a refrigerator.

91% did not buy a washing machine.

85% did not buy a TV set.

So what are you waiting for?

(Concluded on Page 9, Col. 1)

ISSUED EVERY MONDAY AT 450 W. FORT ST., DETROIT 26, MICHIGAN. ESTABLISHED 1926.

AIR CONDITIONING & REFRIGERATION NEWS
THE NEWSPAPER OF THE INDUSTRY

Vol. 77, No. 14 [illegible] August 2, 1954 [illegible] $5 Per Year

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Hopes Fade for 'Anti-Bootlegging' Law This Session

WASHINGTON, D. C. — Any chance of "anti-bootlegging" or "anti-transshipping" Federal legislation being passed by the present Congress has apparently been killed by the opposition of the Department of Justice and the Federal Trade Commission, plus the present Congressional tangle which will see only bills pushed heavily by the Administration being passed from now to the end of the session.

Proponents of the proposed measure believe that the legislation will be brought up again in the next session of Congress, and will get a more extensive hearing at that time.

Rep. Carl Hinshaw of California, chairman of a House Interstate and Foreign Commerce Committee which held hearings on a proposed bill to ban transshipment of new automobiles from franchised deal-

(Concluded on Back Page, Col. 5)

L. J. Sorensen Elected Motor Products President

N. CHICAGO, Ill.—L. J. Sorensen, who had held the top positions in Deepfreeze Appliance Div. of Motor Products Corp. from 1950 until late in 1953, was elected president of the parent company at a recent meeting of the board of directors in Detroit.

L. J. Sorensen

Since December he had been successively executive vice president of Motor Products and acting president following the resignation of L. G. Jacques in the spring.

(Concluded on Page 4, Col. 4)

RACCA, U[illegible] To Start W[illegible] On New Project

CLEVELAND—First meeting of a committee to formulate recommendations for a "cooperative program" to be instituted by the Refrigeration and Air Conditioning Contractors Association (RACCA) and a union (United Association, AFL) will be held Aug. 2 in New York City, according to reports from RACCA headquarters here.

A formal agreement was signed recently between RACCA and the United Association to "jointly foster and promote the progress and welfare of the refrigeration and air conditioning industry, the opportunities for profitable employment in such industry, and the training of skilled craftsmen for employment therein."

A joint committee was established, with Martin P. Durkin, head of the United Association and former Secretary of Labor in the Eisenhower cabinet, as chairman. RACCA members [illegible] the committee include Dudley M. Cawthon of

(Concluded on Back Page, Col. 3)

Memphis OK's 14-Point Air Conditioning Code

MEMPHIS, Tenn. — Room air conditioners will be advertised in the future on the basis of horsepower capacity rather than tonnage, it was decided at a joint meeting of a group of Memphis refrigeration and advertising men and the Better Business Bureau.

Twenty-one advertising men, dealers, and distributors attended the meeting at which a 14-point code of ethics was adopted for the local air conditioning business.

According to Manager George V. Morse, Jr., the Better Business Bureau has objected to the adver-

(Concluded on Page 21, Col. 4)

[illegible] Appoints [illegible]rong Exec. Sec., Moves to Capital

WASHINGTON, D. C.—Appointment of Henry G. Strong of Syracuse, N. Y., as executive secretary of the Refrigeration Industry Safety Advisory Committee was announced recently.

H. G. Strong

Strong succeeds Myron D. Miller, who has resigned to join the staff of the National Electrical Manufacturers Association.

The committee is sponsored jointly by the Air-Conditioning & Refrigeration Institute, the Compressed Gas Association, Inc., and NEMA.

Coincident with this announcement, the headquarters of RISAC

(Concluded on Back Page, Col. 2)

King Leaves Kelvinator; Saylor, Willis Appointed

DETROIT — Re-assignment of Kelvinator sales promotion and advertising executive responsibilities was announced recently by D. A. Packard, general sales manager, following the resignation of T. J. King, director of advertising and sales promotion, to enter agency work.

Packard said W. E. Saylor has been appointed manager of the sales promotion department, while H. A. Willis has been named national advertising manager.

Saylor joined the Kelvinator advertising and sales promotion staff in 1932. He was appointed manager of rural and utility sales in 1944, and from 1951 to the present has been manager of electric range and water heater sales.

(Concluded on Back Page, Col. 1)

1953 Volume on Cooling Products Up 40% over '52

Air Conditioning Unit Sales Top Million Mark, Census Bureau Reports

WASHINGTON, D. C.—A 40% increase in the value of manufacturers' shipments of components and accessories for air conditioning and refrigeration equipment in 1953 over 1952 was reported recently by the Bureau of the Census, U. S. Department of Commerce.

Total value of shipments was $294,639,000 at manufacturers' prices as compared with $210,192,000 in 1952 and $212,576,000 in 1951. These include condensing units, compressors and compressor units, heat-exchanger equipment, and centrifugal refrigeration systems.

The bureau also reported that manufacturers' shipments of self-contained air conditioning units totaled 1,137,293 valued at $293,644,000 for 1953. This represented a 159% gain in unit sales and a 117% gain in value over 1952.

Of these, window-type room air conditioning units of 1½ hp. and less amounted to 1,017,699 unit sales at a dollar value of $191,129,000.

Detailed tables on 1953 shipments as compared with previous years are found on pages 22 and 23 of this issue.

The current report, the Census Bureau says, presents data for all known companies manufacturing components and accessories for air conditioning and commercial refrigeration and complete air conditioning equipment of the types specified. Household refrigeration units are not covered. The 1953 figures are based on reports received from 129 companies on Census Form MA52A.

Shipments of condensing units in 1953 totaled 966,136 units valued at $74,013,000, compared with 654,223 units valued at $61,439,000 in 1952.

A total of 2,380,739 compressors and compressor units valued at $121,054,000 were shipped in 1953, representing an increase of 42% in number and 70% in value over 1952 shipments.

The value of heat-exchanger equipment shipped in 1953 was $82,602,000, an increase of 30% from the previous year's total of $63,666,000.

Shipments of centrifugal refrigeration systems increased from 363 units in 1952 to 469 units in 1953. Comparative dollar values for the respective years are $14,040,000 and $14,970,000.

For 1953, statistics for manufacturers' shipments of heat pumps were collected for the first time in this series, the Census Bureau noted. During the year manufacturers reported shipments of 986 heat pumps valued at $1,613,000.

The year 1953 was the first year

(Concluded on Page 22, Col. 3)

At Home and on the Road

Air Conditioned Life Appeals to Press, Public

DETROIT — Two nationally-known newspaper people, Hal Boyle and Dorothy Kilgallen, gave a nod of high approval of air conditioning in recent columns.

So did some ordinary folks in answering this question asked by a Cincinnati newspaper reporter: "Would you like to live in an air conditioned home?"

Boyle, an Associated Press columnist, told his readers that the city is now the best place to spend the summer. To explain why, he quoted a friend as saying:

"I live in an air conditioned apartment and work in an air conditioned office. I've figured out a way to get to and from work in 33 minutes a day. That means I have to spend only two hours and 45 minutes outdoors from Monday through Friday.

"On Friday evening I put on my pajamas and hibernate in them until Monday morning. I don't have to worry about the heat, or mosquitoes, or sunburn, or stepping on cockleburrs.

"By staying home," Boyle's friend continued, "I save money, catch up on all the books I want to read. I even have had time to get acquainted with my wife—imagine that, after all these years—and she has turned out to be a pretty interesting fellow, now that we don't have all those quarrels about where to go for the summer and how to get there."

But, Boyle said, one thing keeps his friend from being a happy guy—commuters.

"Some of our friends who own

(Concluded on Page 4, Col. 5)

Say 'Fill 'Er Up'

to a gasoline station attendant out west who has one of these contraptions on his driveway and you will not only get your tank filled with gas, but your car filled with cool, dry air. Chrysler Airtemp says that it has made several dozen of these mobile 3-hp., waterless air conditioners in the past year, mostly for gasoline dealers in the hot plains areas. Attendants find it good business to toss the business end of the wide flexible duct in a car window at the same time they are filling the tank. Customers appreciate this extra cool service and often come back for more. Aircraft manufacturers also use these mobile units to cool mechanics working on airplane engines and fuselages in sizzling temperatures.

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XUM

Fireman Pockets Fee As System Inspector

NEW YORK CITY—A local fireman recently admitted before a departmental trial board that he had split fees with another fireman who allowed him to act as an "air conditioning supervisor" in order to make some extra money.

Fireman Alfred V. Marinelli admitted to Third Deputy Commissioner Albert S. Pacetta that he had received fees of $125 and $150 for hanging his "certificate of qualification" as a supervisor for large air conditioning units in a Manhattan restaurant in 1952 and an air lines building in 1953.

He said he paid $50 of the first fee to Fireman Francis X. Bresnan for getting him the job. He added that he learned, without surprise, that Bresnan had kept $100 as his cut from the second job.

While pleading guilty to these actions, Marinelli said that he did not realize he was doing wrong and thought it was a common practice throughout the city.

New Deering Distributor

HOUSTON, Texas—Deering Air Conditioning Co. of Cincinnati has appointed H. W. Sinclair Distributing Co. as exclusive distributor for Deering room air conditioners in Houston and the Gulf Coast area of Texas.

York Orders, Income, Profit Up for Year

YORK, Pa.—Orders, income, and profits for the York Corp. were higher in the nine months ending June 30 than in the same period last year, the company announced recently. The same held true for the year ending June 30.

Net profit for the nine months was $2,417,304 as compared with $2,019,800 last year. Gross income was $74,177,182 as compared with $59,186,054. Orders booked totaled $69,979,366 as compared with $66,820,190 in the previous year.

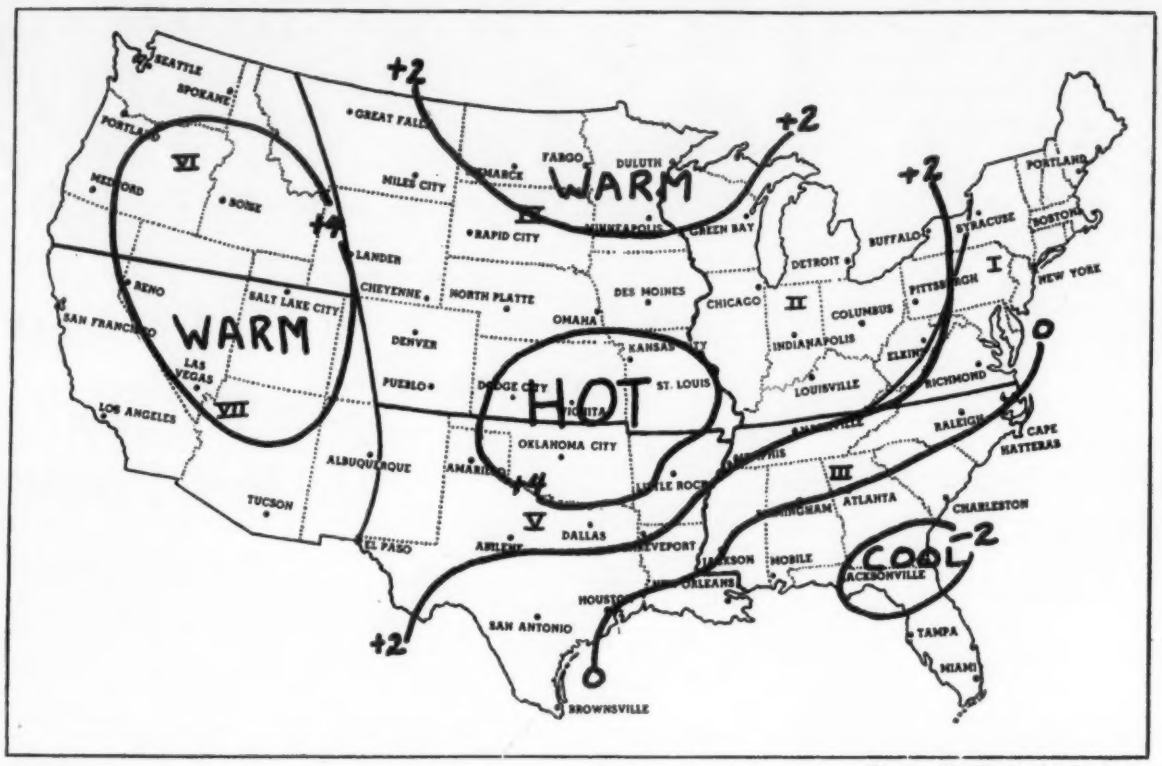
For the year, net profit was $3,138,345 as against $2,972,425 in the previous 12 months. Gross income was $97,694,623 as compared with $73,663,056.

The usual quarterly dividend of 25 cents on common stock will be paid on Oct. 1 to stock of record Sept. 15, Stewart E. Lauer, president, announced.

14 Cool Spots To Shop

GRANITE CITY, Ill. — All 14 units in the newly-constructed Bellemore Village Shopping Center, Johnson and Nameoki Rds., will be air conditioned. A total of 11 acres is covered by the shopping center, which is of one-story, modern design. Five acres are devoted to a paved parking area, providing space for 900 automobiles.

What's the Weather Outlook for August?



—Map copyrighted by Weather Trends, Inc.

FIGURES at the end of the contour line represent the estimated deviations from normal monthly temperatures which are predicted for the month of July.

Long Range Forecast Is 'Warmer Than Usual' In Most Sections, Especially In Plains Area

* * *

NEW YORK CITY — August temperatures in most parts of the country will be above normal, it is predicted by Weather Trends, Inc. The firm, with headquarters at 550 Fifth Ave. here, supplies a detailed weather forecasting service for clients in industry, retailing, and agriculture.

The Weather Trends forecast for July, published in the July 5 issue, forecast the warmer weather that hit the country the past month.

Following is the August forecast by Weather Trends, Inc. and explanation of its weather map:

"During August, warmer than normal temperatures will again prevail over most sections of the country with the exceptions of scattered areas in the Southeast and extreme Northeast.

"Greatest departure towards hot temperatures will occur in the Central States and will coincide with near-drought conditions over a vast area.

"The most important periods during the month, favorable to air conditioner and electric fan sales, are estimated to be the following:

"Northeast—Aug. 17-20, 26-30, with no extended heat wave anticipated.

"Great Lakes—Aug. 1-2, 11-15, 26-30.

"Southeast—Aug. 1-5, 11-17, 28-31.

"North Central—Aug. 6-9, 14-16, 26-28.

"South Central—Aug. 8-10, 15-18, 26-31.

"Northwest—Aug. 4-15, 20-22, with no extremes expected for coastal areas.

"Southwest—Aug. 5-8, 13-15, 23-24 while inland the entire period of Aug. 5-25 will be favorable to comfort-cooling equipment sales."

* * *

A check by the editors of the NEWS on temperatures registered in various parts of the country throughout July reveals that the Weather Trends, Inc. forecast for July, published in the July 5 issue, came very close to being "right on the nose."

The firm's weather map for July showed that the "hot" areas (greatest deviation towards warmer temperatures from normal) would be in the Southwest and South Atlantic states, and that there would be several "warm" periods in the north central areas.

The forecast also indicated no great likelihood of extended hot spells in the northeast.

All of this was substantiated by the actual temperatures recorded.

The forecast missed in predicting that there might be some cool spells in part of the Central Plains area (actually this spot had some of the most extended hot spells ever recorded in July) and in the prediction that there would be no great deviation from normal along the southern Pacific Coast region, which had some extended hot weather.

RACCA Moves to New Offices In Cleveland

CLEVELAND — Offices of the Refrigeration and Air Conditioning Contractors Association (national) have been expanded in a move to new quarters at 10660 Carnegie Ave., Cleveland, reports Ray Kromer, executive vice president of RACCA.

Kane Becomes Owner of National Cooler Corp.

CLEVELAND—James M. Kane has resigned as general sales manager of the Kane Co. to become president and sole owner of the National Cooler Corp.

Kane purchased National Cooler, which makes stainless steel equipment for restaurants and other commercial institutions, from the estate of the late Abraham Litt.

Available for Immediate Shipment

B.A.C.

EVAPORATIVE CONDENSERS
COOLING TOWERS

. . . in most popular sizes.

BALTIMORE AIRCOIL COMPANY, INC.
2615 MATHEWS STREET • BALTIMORE 18, MARYLAND

CURTIS REFRIGERATION
AIR CONDITIONING COMMERCIAL
For All Your Refrigeration and Air Conditioning Requirements
Curtis Refrigerating Machine Division
of Curtis Manufacturing Company R-328
1912 Kienlen Ave. St. Louis 20, Mo.
Established 1854

IDEAL Speed-Freeze PRODUCTS
BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS.
(With Refrigerated Faucets)
WRITE
IDEAL COOLER CORPORATION
2953 EASTON AVE. • ST. LOUIS 6, MO

3 R's OF THE INDUSTRY
Ranco Replacement Reference No. 1544 lists almost 5,000 replacement controls . . . the most complete line in the industry. This big, new manual can be purchased from your Ranco wholesaler. Get yours now.

RANCO DUAL PRESSURE CONTROL
. . . safety-guarantee for your air conditioning service
Your customers will appreciate the protection of this Dual Pressure Control . . . and here's why:

High pressure cut-out with non-adjustable high pressure limit stop safeguards the system—prevents service adjustment above the maximum safe operating pressure. Low pressure safety cut-out prevents pulling air into the system with excessive low pressure operation.

In either event, the system shuts down until restarted with the manual reset. Both high and low pressure ranges are independently adjustable.

Add up those features and you'll understand why Underwriters Laboratories requires this type of control on all hermetically sealed air conditioning systems . . . why both you and your customers will consider it well worth the few minutes it takes to install. Make your next job a Ranco Dual Pressure Control installation . . . now available in Types 012-1593, 012-1594 and 012-1595 . . . a safety-guarantee for your air conditioning customers.

Ranco Inc.
COLUMBUS 1, OHIO
WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

TRADE-INS . . . Assets or Liabilities?
IT'S UP TO YOU!

KELVINATOR'S "VERIFIED VALUE" PROGRAM

1 *Moves Your Used Appliance Inventory!*

2 *Protects You Against Trade-in Losses!*

Survey Proves "Verified Value" the Common Sense Answer For Successful Trade-in Selling!

THE June 14th issue of *NARDA News* pointedly states "The Trade-In Problem Assumes Giant Proportions" and that the enormity of the problem is indicated . . . among other things . . . by the fact that refrigerator, washer, range and television trade-in percentages of total sales in 1953 were 68%, 65%, 60% and 27% respectively. The article ends with a warning note that something's got to be done!

The purpose of this Kelvinator advertisement is to remind appliance dealers that something HAS been done . . . something important, constructive, and helpful:

Almost ten years ago, foreseeing rapid expansion of replacement selling, Kelvinator set the foundation stones of its "VERIFIED VALUE" program—today the most thoroughly tested, proved and reliable plan for conducting appliance trade-in business. This program is *complete*. It covers *everything*—from the planning, equipping and operating of a low-cost reconditioning shop to appraising, bookkeeping, reconditioning and selling the used product.

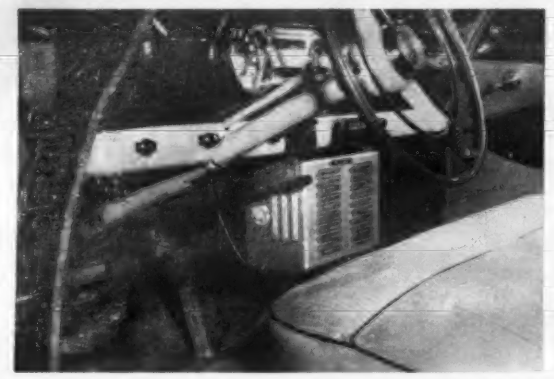
Does it pay? Some of the nation's largest and most successful retailers have demonstrated over many months that Kelvinator's "VERIFIED VALUE" plan can be relied upon to produce *break-even—or better—returns on their trade-in allowances*. Equally important, a survey of these dealers revealed that their "used" inventory averaged 66% less than that of other dealers!

Here is a tested program that can mean the difference between red and black in your appliance business. It is the kind of stuff more *paying* appliance sales are made of. It is another example of Kelvinator's retail-minded concern about the dealer's problems. It is another reason why the Kelvinator franchise has high value for the appliance retailer who holds it.

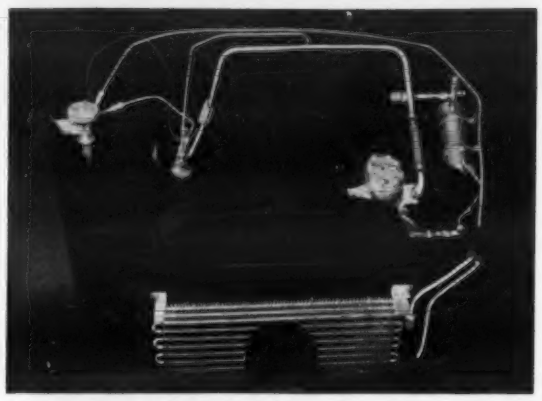
Kelvinator *THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY*

Division of American Motors Corporation, Detroit 32, Michigan

ELECTRIC REFRIGERATORS • ELECTRIC RANGES • HOME FREEZERS • WATER HEATERS • KITCHEN CABINETS AND SINKS • WASHERS • DRYERS
IRONERS • GARBAGE DISPOSERS • WATER COOLERS • ROOM AIR CONDITIONERS • DEHUMIDIFIERS • COMMERCIAL REFRIGERATION



HOW THE EVAPORATOR of the Wabash auto air conditioner installs under the hood of the 1953 or 1954 Chevrolet is shown here. If the installer can improvise a supporting platform and devise a satisfactory belt drive, it can be used on many other cars.



THE COMPLETE SYSTEM under the hood of the car is illustrated here. Installation instructions for refrigeration men are provided with each system sold. With everything up front, the manufacturer says there are no long lines or cumbersome installation problems.

Wabash Auto Air Conditioner Designed For Chevrolets, Can Be Adapted to Others

CHICAGO—An automobile air conditioner specifically designed for 1953 and 1954 model Chevrolets has been introduced by the Wabash Mfg. Co. here.

However, the company said, this model can be used on many other cars if the installer can improvise a supporting platform and devise a satisfactory belt drive. It said it hopes to supply units to fit Plymouths and Fords later on.

The unit is to be distributed through refrigeration wholesale jobbers and is designed for installation by refrigeration dealers and contractors, R. E. Caplan, Wabash sales manager, stated.

He said the unit is unique in that the evaporator and blower assembly are designed for location under the dashboard and there are no long lines or cumbersome installation problems entailed since there are no connections made to the trunk. Condenser and other parts of the air conditioner system are located under the hood in the front of the car.

The unit is powered by a two-cylinder compressor belted directly to the automobile engine. List price of the Wabash automobile air conditioner is $399.95, plus installation.

HOW IT WORKS

The company gave this explanation of how the Wabash automobile air conditioner works.

"The Wabash automobile air conditioner is basically the same as any normal air conditioning system. The component parts are a compressor, condenser, receiver, dryer, sight glass, expansion valve, and evaporator.

"There is, however, one major difference that is inherent with any automobile air conditioning system. Since the compressor derives its power from the automobile engine, and is belted directly to the engine, the speed of the compressor varies directly with the speed of the automobile.

"This means that it is entirely possible at high speeds or mild outside temperatures for the compressor to develop more refrigeration than is necessary to handle the heat load in the car.

"To overcome this condition and to provide a means of regulating the air temperature inside the car, a by-pass or compressor modulating valve is introduced into the refrigerant circuit.

"Located in a by-pass line between the compressor discharge and the outlet of the expansion valve, this valve is controlled by a feeler bulb placed in the return air stream of the evaporator.

"When the temperature of the air in the automobile falls below a predetermined level, the by-pass valve opens allowing the hot, high pressure gas from the compressor to flow into the evaporator. This raises the temperature and pressure of the refrigerant in the evaporator and by modulating the amount of hot gas from the compressor, the valve enables the system to maintain an even air temperature inside the passenger compartment.

"A further control on the air temperature is the fan control switch located on the side of the evaporator housing. This switch allows the driver of the car to regulate the amount of air being passed over the evaporator coil, and thus control the air temperature."

MUST BE INSTALLED BY REFRIGERATION MEN

The company supplies a step by step set of instructions on how to install the air conditioner along with pictures to illustrate the process. However, the installation sheet emphasizes that the unit must be installed only by an experienced refrigeration service engineer.

"We purposely avoided instructions in the making of leak-proof flares, keeping the system dry, and charging and balancing the system, because qualified refrigeration men know these procedures fully," the company declared.

The air conditioner is shipped in three packages. The parts list includes an evaporator assembly including fan and motor, a condenser with copper tube and aluminum fins, a Tecumseh compressor, an A-P thermostatic expansion valve, an A-P compressor modulating by-pass valve, a liquid receiver, a sight glass, a Wabash dryer, a compressor mounting platform assembly, a ½-in. SAE vibration eliminator, a ⅝-in. SAE vibration eliminator, all necessary flare fittings, tube clamps, and all other mounting brackets and parts.

Shipping weight is approximately 100 lbs.

Boyle, Kilgallen--

(Concluded from Page 1, Col. 4)

country places and used to insist on having us out for the week-end now want to come and visit us in the city," the friend complained. "They've heard about how pleasant and restful it is to spend a week-end in the city. I wish I knew what to do about it."

So Boyle told him what to do about it. One of the columnist's several suggestions on "how the happy city dweller can repel an invasion of human locusts seeking relief from the discomforts of a summer in the country" was this one: "When they arrive, announce that your air conditioner has broken down."

Miss Kilgallen feels the same way as does Boyle's friend. She began a recent Hearst Syndicate "Voice of Broadway" column with this observation:

"On hot days I'd rather be in an air conditioned office in Manhattan than under a non-conditioned maple tree in the country. And what did we ever do before air conditioning?"

A reporter for the *Cincinnati Enquirer* asked two women and a man if they would like to live in an air conditioned home. One woman, a homemaker, replied that she already does, "and I like it very much. . . . On the hot days we spend most of our time at home.

"I really don't think it tasks your health any more than it would to go out of a warm house into the hot air. The only disadvantage that I have found is that it is harder to get my husband to cut the grass now."

Said another lady: "I think it would be nice, especially in Cincinnati in the summertime, with heat waves like we have here. It seems to me that even though it is used only four months out of a year, it is beneficial to the health because it circulates the air and prevents pollen from bothering those with weed allergies."

The man, a student, answered: "Yes, I believe I would like to live in an air conditioned house. If you are cool, you are comfortable and not only feel better, but get more done. Some people feel it is bad for the health, but I think it is good because air conditioning uses fresh air."

Park It In Comfort

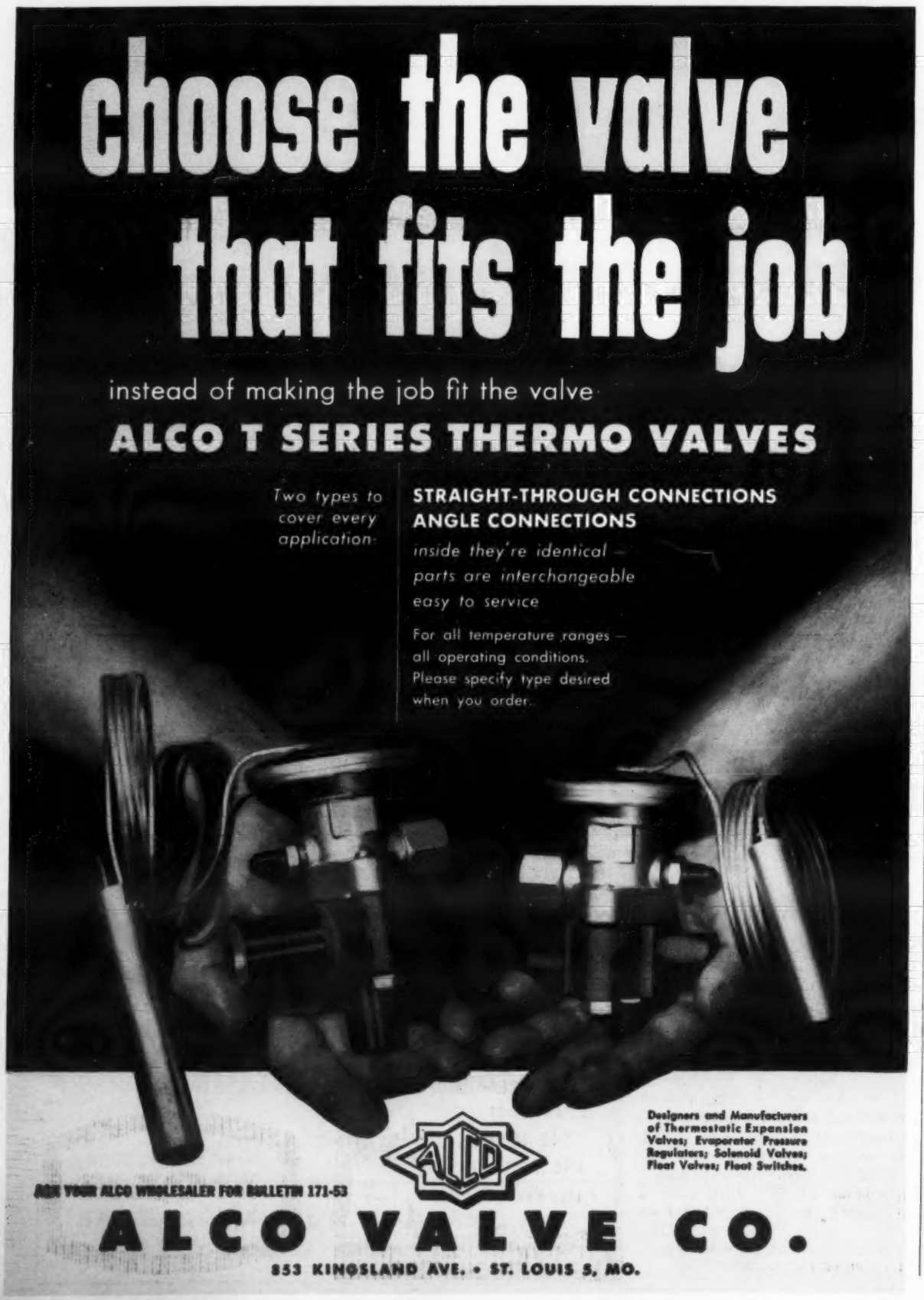
SAVANNAH, Ga.—The Artley Co. has been awarded a contract for the construction of a modern parking garage on Ellis Square. It will accommodate 367 automobiles. Plans call for a spacious air conditioned lounge for customers desiring to wait for friends to join them.

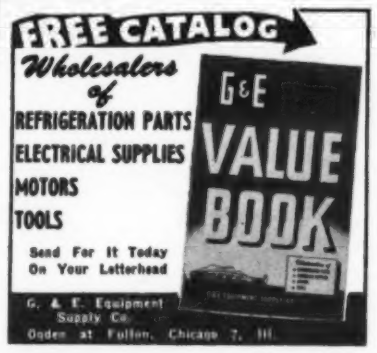
Sorensen Elected--

(Concluded from Page 1, Col. 2)

Sorensen became the chief executive of Deepfreeze in 1950. Since August, 1953, until his promotion to the parent corporation in December, he served as executive vice president of the appliance organization.

He joined Motor Products in Detroit in 1947 as treasurer and controller. In 1951 he was elected to the board of directors.


choose the valve
that fits the job
instead of making the job fit the valve
ALCO T SERIES THERMO VALVES
Two types to cover every application
STRAIGHT-THROUGH CONNECTIONS
ANGLE CONNECTIONS
inside they're identical —
parts are interchangeable
easy to service
For all temperature ranges —
all operating conditions.
Please specify type desired
when you order.
Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.
ASK YOUR ALCO WHOLESALER FOR BULLETIN 171-53
ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.



Demand IS FOR
CLEANABLE
WATER-COOLED
CONDENSERS
½ to 25-Ton Capacity
HM
MORE EFFICIENT DOUBLE-TUBE COUNTER-FLOW DESIGN
"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are cleanable—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.
WHOLESALERS IN PRINCIPAL CITIES
Halstead & Mitchell
BESSEMER BLDG. • PITTSBURGH 22, PA.

Cleveland Adopts Ordinance To End Fake Liquidation Sales

CLEVELAND — Sponsored by several local business associations, an ordinance designed to stop fake liquidation sales was passed recently by the Cleveland City Council.

The ordinance requires that merchants obtain a license before holding a "going out of business," "loss of lease," "damaged goods," etc. sale or any other type of sale which leads the public to believe the store owner will no longer remain in business.

Violators are subject to a $500 fine, 30 days in jail, or both. In addition, no retailer convicted of violating any of the provisions of the regulation will be permitted to hold such a sale for two years.

Merchants planning to conduct such sales must apply to the Commissioner of Assessments and Licenses 30 days before advertising. They must list all current inventory, all inventory on order, and all which they intend to order.

No stock may be added after the license is granted and no more than 50% of the average inventory carried by the applicant over the preceding five years may be offered for sale.

The ordinance requires that sales be concluded within 30 days. However, there are provisions for extending a license under a number of circumstances. No retailer may hold two such sales within 18 months.

A public hearing held by the Commissioner of Assessments and Licenses will determine whether a proposed sale is genuine. The decision can be appealed.

Cost of the license depends on the value of the wholesale stock, ranging from $5 for $5,000 or more to $50 for over $25,000. Each retailer must post bond for $2,500 after the license is granted.

The ordinance was modeled after those passed by Youngstown, Pittsburgh, Akron, and other cities.

Cambria Equipment Named Norge Distributor In Pa.

CHICAGO — Appointment of Cambria Equipment Co., Johnstown, Pa., as a Norge distributor was announced recently by Harold P. Bull, director of distribution for the Norge Div. of Borg-Warner Corp.

Charles S. Price is president and William V. Price vice president of the distributorship. F. W. Levergood is credit manager and John Rusnak service manager.

The firm will handle sales and service of all Norge appliances in a new territory comprised of Jefferson, Clearfield, Cambria, Blair Huntingdon, Somerset, Bedford, Fulton, Indiana, and Elk counties, Pennsylvania; Mineral, Hampshire, Grant, Hardy, and Pendleton counties, West Virginia; and Allegany and Garrett counties, Maryland.

This territory formerly was served by distributors in Pittsburg and Baltimore.

The firm was founded in 1908 as Johnstown Auto Co. and changed to its present name when it entered the appliance field in 1935.

Linthicum Heads Sales of Norris-Thermador In Ohio

LOS ANGELES — Norris-Thermador Corp. has announced the appointment of Thomas A. Linthicum as district sales manager for Ohio.

A graduate of the University of Southern California, Linthicum served three years as a Naval lieutenant before going to Norris-Thermador. He has been a sales supervisor and assistant district manager for five years. His headquarters are in Cleveland.

Ranney To Market Refrigerators, Freezers Under Own Label, Continue Contract Mfg.

GREENVILLE, Mich.—For the first time since World War II, Ranney Refrigerator Co. here will market refrigerators and home freezers under its own label, Lee W. Ranney, Jr., vice president in charge of sales, revealed recently.

He also pointed out that the company will continue its contract manufacturing operations.

A program for national distribution of two electric refrigerator models and two upright freezers is being prepared. The Ranney units will be marketed through manufacturers' representatives.

Both refrigerators are 10-cu. ft. models. One is priced at $299.95 and the other, an automatic defrosting unit, retails at $329.95. Common features include removable door trays called "Tote-trays" and frozen food storage capacity of more than 40 lbs.

One of the freezers is a 15-cu. ft. model with a suggested retail price of $449.95. Priced at $499.95, the other freezer has a capacity of 17 cu. ft. Both models measure less than 32 in. wide and have all-aluminum interior construction with refrigeration of the entire liner and the shelves. One shelf is adjustable. Doors have shelves or racks.

"Seafoam Green" interiors are provided in all refrigerators and freezers.

Ranney's program for reviving its own label merchandise has been in progress since Gregory L. Rees joined the company several months ago. Rees was formerly president of Coolerator Co.

Appliance, Heating Dealers Organize In Tri-City Area

ALBANY, N. Y. — A Tri-City Appliance and Heating Dealers Association was organized at the Hendrick Hudson hotel, Troy.

Officials said the group aims to "combat elements and systems that are hampering free enterprise in the appliance heating and plumbing business." About 30 dealers and four distributors attended.

Named temporary officers were: president, James A. Colcombe; vice president, Richard Moorodian; treasurer, Charles Regan; and members of the board of governors, Gordon L. Hayes and Edgar Newland, Sr.

Membership will be open to all dealers in Troy, Cohoes, Watervliet, Green Island, and surrounding towns and villages, it was announced.

New American Motors Corp. Reports Net Loss of $3,848,667 for Quarter

DETROIT — American Motors Corp. reports a net loss of $3,848,667 for the quarter ended June 30, 1954, after a tax credit of $2,926,000 under the carry-back provisions of the income tax law. Sales for the period amounted to $104,220,995.

This report is the first since the merger of Nash-Kelvinator and Hudson Motor Car Co. It includes Nash-Kelvinator as the continuing corporation from April 1, 1954, and the Hudson Motor Car division from May 1, 1954, when the merger became effective.

Operations for the nine months ended June 30, 1954, for Nash-Kelvinator, and for May and June for the Hudson Motor Car division, showed a loss of $3,643,958 after applicable tax credits. Sales for the period were reported to be $305,959,368.

American Motors started business May 1, 1954, with net working capital of $90,635,832 and a stockholders' investment of $173,234,512. The bank debt of both companies has been consolidated into a three-year revolving credit agreement with all banks of the two predecessor companies, according to the company.

"It was to be expected that the first months after the merger would show unfavorable results, particularly because of the current low volume of production," George W. Mason, president said. "Savings in costs and other benefits which the merger makes possible could not be realized this quickly, although much has been done in combining activities to eliminate duplicating costs.

"Many operating decisions for the future have been made, including the one to concentrate the body production and final assembly of Nash and Hudson cars in American Motors' plants in Wisconsin.

"While separate dealer organizations and distinct Hudson and Nash car lines will be maintained, many other matters remain to be decided, especially those relating to the integrating of various models, and the effect of such integration upon amortization of deferred tool costs.

"Because final decisions on models will not be made until later this year, tool amortization charges against current operations have not been adjusted to reflect current low volume or integration problems.

"However, a reserve of $11,000,000 was provided as of the date of the merger against changes in asset values, principally for deferred tooling costs."

CONTINUOUS CONTACT ALUMINUM TUBING
freezes food faster at less cost.

Bohn aluminum freezing surfaces—provide a uniformly low temperature that assures the safest possible food storage. Seamless aluminum tubing is bonded to the aluminum plate in continuous contact. This provides better conductivity for faster freezing at less operating cost. Bohn aluminum freezer plates are also rust-proof to insure years of trouble-free service, and non-toxic for greater food protection.

NEW BOOKLET
"Bohn Products and How They are Made."
Write for free copy of this pictorial tour through Bohn plants.

EVAPORATORS • FREEZING PLATES • TUBING • COILS AND CONDENSERS
BOHN ALUMINUM AND BRASS CORPORATION
1400 LAFAYETTE BUILDING • DETROIT 26, MICHIGAN
Sales Offices: • BOSTON • CHICAGO • CLEVELAND • DAYTON • DETROIT INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • MOLINE NEW YORK • PHILADELPHIA • ROCHESTER • ST. LOUIS

Bohn Freezer plates made with seamless aluminum tubing freeze food faster at less cost, provide uniformly low temperature throughout freezer.

2 Simple Installations for Air-Cooled Conditioners Outlined by Airtemp

DAYTON—Two simple commercial air conditioning installations have been outlined for Chrysler Airtemp distributors and dealers designing systems for air-cooled, or waterless, air conditioning in small retail stores and shops.

For individual buildings containing dairy bars, dry cleaner service stores, real estate offices, beauty shops, and others requiring only one floor, one or more air-cooled air conditioners can be quickly mounted on the roof, according to the company.

"Cool air is introduced through the roof to a ceiling diffuser," it was explained. "Return air also comes through a ceiling grille, through a separate duct to the air conditioner. Refrigerant is cooled by outside air.

"No floor space is required; air is effectively distributed downwards from the ceiling. The air conditioners can be installed in combinations of 2, 3, and 5 hp. where space exceeds the capacity of a single unit.

"A louvered enclosure with removable panels should house the unit against rain and hail."

Many existing shops in larger buildings have 11 or 12-ft. ceilings with overhead space over the front entrance and show windows, Airtemp said. This space could be well-utilized to house an air conditioner, it was pointed out.

"Cool air supply ducts and warm air return ducts could run between the air conditioner and a partition separating the equipment space from the rest of the store," the company stated.

"Outside air for cooling the refrigerant can be drawn through a grille set in the floor of the equipment space and then discharged through a grille in the building's front.

"This arrangement is recommended for ground floor shops in many-story buildings with adjoining business places. The extra plumbing costs encountered in supplying enough water for air conditioning often makes the cost of air conditioning prohibitive. In many cases it is impossible to supply sufficient water.

"With the self-contained air-cooled 'package' air conditioner, it is possible to avoid a great deal of expense and utilize otherwise unused space."

To Air Condition Clinic

AYDEN, N. C.—Contract has been awarded to Leroy Cherry for construction of the New Ayden Clinic. The building, to cost $36,869.42, will be air conditioned.

Independent Weathertron Distributor Named In Tenn.

BLOOMFIELD, N. J.—The General Electric Co.'s Weathertron Dept. has announced the establishment of franchised independent distribution in Tennessee with the appointment of Radio and Appliance Corp. as a wholesale sales outlet for the Weathertron.

The Tennessee area had previously been a marketing research area handled direct by a G-E sales office in Chattanooga. Marketing programs, sales plans, and new selling techniques were tested here prior to introduction on a national scale.

Announcing the move, H. M. Brundage, Weathertron Dept. general manager, said, "Turning over the Tennessee area to normal distribution channels marks its change from an experimental area to a bona-fide buying market.

"We feel that from this point on further strides in Weathertron growth can best be made through a Tennessee distributor having close connections with a local market."

Radio and appliance Corp. has its headquarters in Nashville and maintains branches in Knoxville and Chattanooga.

Some personnel of the former G-E factory branch will join Radio and Appliance Corp. Others will remain in Tennessee as advisors until reassignment by G-E.

Each Air Conditioning Installation Must Be Figured on Own Merits, McLain Tells IGA

CHICAGO—There is no shortcut to engineering an air conditioning installation in a food store, Robert D. McLain, manager of the RK Div., United States Air Conditioning Corp., told store engineers of the Independent Grocers Alliance here recently.

There are so many factors affecting the heat load and the type of equipment to be used that each installation must be figured on its own merits, he noted.

HEAT LOAD

Then the heat load must be analyzed, using such information as type of construction, number of people using the building, and types of loads present. The latter include building load, people load, and ventilation load.

In this connection, McLain noted, wall load can generally be eliminated if all are insulated interior walls. A wet roof can also reduce total load by from 10 to 20%. Whether or not the front door is to remain open also has a strong bearing on the size of equipment needed. Use of open type refrigerated cases will reduce the heat load.

VENTILATION LOAD

For ventilation load, McLain noted that a minimum of two changes of fresh air per hour are required. There must be 10 c.f.m. per person for ventilation alone, and 15 to 25 f.p.m. of air motion is desirable.

As a rule of thumb, lighting will produce a load of at least a one watt per sq. ft. of lighting. Another rule of thumb is that one ton of refrigeration is required for every 300 sq. ft. of floor space, on the average.

McLain declared that these rules could vary considerably in individual applications. Ben Avery, General Electric light salesman present at the clinic, volunteered that in modern well lighted stores, the heat load from lighting was running closer to 6 watts per sq. ft.

The equipment selected to do the air conditioning job, McLain said, depends both on the heat load for size of equipment and the economics of the particular situation for type. Comparative electric power and water costs will determine whether the equipment should be water cooled or air cooled and whether or not a water saver is needed. Construction costs and store layout will determine whether equipment should be placed in the space to be conditioned or in a central location outside the conditioned space.

SINGLE OR DUAL CIRCUIT

For large jobs where electricity costs are a factor, there is a choice between single and dual circuits. The dual circuit is for stores with wide load variations in store traffic or weather so that a second compressor can act as a booster during heavy load periods.

When floor space is scarce, the air conditioning equipment can be mounted overhead in the back room, leaving all the floor area free for storage space, McLain said.

Pointing out that the advantage of using packaged air conditioners lies in their simplicity, reliability, compactness, economical operation, and lowered installation costs, McLain commented that he believed air conditioners can be even more compact. He said he was urging manufacturers to make their packaged units even smaller than they are now.

14-Story Shapiro Building Uses 14 Packaged Conditioners

WASHINGTON, D. C. — Fourteen packaged air conditioners—one for each floor—were installed in the new Shapiro Bldg. here by the General Electric Supply Co.

The Shapiro Bldg. is constructed on a small, long, narrow plot, and the packaged units were selected because they could fit in otherwise unusable floor space, according to Ed Pierce of Gesco's Washington office.

As a wholesaler...

You're Right

-Day or Night-

When you Specify

WOLVERINE!

Copper refrigeration tube

Order it by Name

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
Manufacturers of Quality-Controlled Tubing
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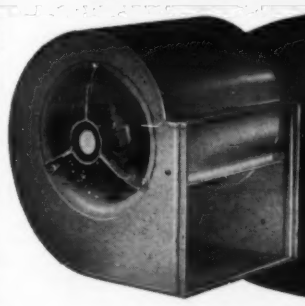
PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.
EXPORT DEPT. 11 E. 60TH ST., NEW YORK 16, N. Y.

LAU

For lowered costs without sacrifice of performance—specify LAU



Direct Drive Blowers

Your complete blower "package" . . . no belts, pulleys or expensive motors. For manufacturers and designers of furnaces and air conditioning units who want a compact, simplified and inexpensive unit permitting economies in space and installation. Sizes from DD7 to DD9-10. Capacity Ranges from 50 to 1200 cfm.
Write for Catalog Page 707-14

THE LAU BLOWER COMPANY
DAYTON 7, OHIO
World's Largest Manufacturers of Air Conditioning Blowers

XUM

Commercial Refrigeration

COIN-OPERATED milk vendor recently introduced by Food Engineering Corp. is said to be so light in weight that it can be hung on the wall.

Food Engineering Develops Small, Light Milk Vendor with Plastic Valve Liner

MANCHESTER, N. H.—After seven years of development, a coin-operated bulk milk vending machine has been announced by the Food Engineering Corp. here.

Donald W. Brous, president of the company and developer of the unit, said that he expects to show the new vendor to the trade for the first time at the automatic vending machine show in Chicago in October. Test models have been in use for some time locally and have been demonstrated for the Secretary of Agriculture.

Brous claims that the vendor is a new "low" in size and weight. It occupies only 26 by 26 in. in floor space in the free-standing model and is so light that it can be wall mounted if desired.

The machine holds two 40-qt. cans and 320 large paper cups. When the coin is dropped into the machine, milk is poured directly from the jug into the paper cup. This is done inside the refrigerated compartment.

From the can to each individual cup the milk passes through only one other receptacle. That is a disposable, single service valve liner made of polyethylene. Operation of the valve is by mechanism working from outside the valve so that there is no contact with the milk as it flows from the can, through the valve, into the cup.

All these mechanisms do is compress and relax the flexible walls of the valve. Using springs and solenoids, only two moving parts are required.

The milk handling valve is refrigerated and protected from any possible contamination from the outside, Brous said. The only time the refrigerated compartment is open is during the few seconds the transparent plastic window is locked in place between the cup and the exterior of the machine.

As soon as pouring has been completed, the milk measuring device returns to the refrigerated section, completely protected and sealed off from the outside. Then, and only then, is the window unlocked so that the customer can raise the window and remove the cup of milk.

The entire interior of the refrigerated compartment of the machine is made of polished stainless steel with all seams welded and soldered. Drains are provided to remove any condensation from the cans, accidental spilling of milk, etc.

The machine is equipped with a coin changer with slug rejector. It has an electric control circuit that incorporates anti-jackpot protection to prevent the machine from delivering milk continuously due to any electrical failure. A protective electrical device prevents operation in the event of failure of any electrical parts.

The refrigeration system is the cold-wall type using a hermetically sealed unit. As a safety device, a high temperature cutout is included in addition to the regular thermostat to prevent the machine from vending should the temperature in the cabinet rise too high. The entire cabinet is insulated with glass fiber.

The cabinet exterior is of heavy gauge steel of all welded construction. Patents have been applied for on the valve as well as mechanical features of the vendor, Brous said.

Sunroc Supplies Water Coolers for Atomic Sub

GLEN RIDDLE, Pa.—The Navy has awarded a contract to Sunroc Co. here for the special water coolers to be used aboard the first atomic powered submarine, the *U.S.S. Nautilus,* Sunroc announces.

Of stainless steel construction these units are specially designed to withstand high shock conditions, and have special anti-radio interference devices, which eliminates any interference with the delicate electronic equipment.

M-H Data Sheet Describes Hudson Bay Test Cabinets

PHILADELPHIA—Minneapolis-Honeywell Regulator Co.'s Industrial Div. has announced that environmental test cabinets for JAN and MIL tests, product evaluation, and research activities are shown in new Instrumentation Data Sheet 11.0-8.

This two-page sheet covers all aspects of the line of cabinets made by Hudson Bay Div. of Refrigeration Systems, Inc. and equipped with Brown instruments.

Fogel Appoints Johnson Southeast Representative

PHILADELPHIA — William Fogel, president of the Fogel Refrigerator Co., announces that Samuel J. Johnson has been appointed Southeast field representative.

His territory will include North Carolina, South Carolina, Georgia, and the western two-thirds of Virginia.

Johnson will make his headquarters in Atlanta and will supervise installations, check on service, make store layout and merchandising suggestions, and handle customer relations, working with Fogel dealers and distributors throughout the territory.

Prior to joining the Fogel organization, Johnson served with Bastian-Blessing Co., Liquid Carbonic Corp., and The Borden Co.

Worthington Corp. Moves Twin Cities District Office

HARRISON, N. J. — Worthington Corp. has announced a new location for its Twin Cities district office, at 807 Thirteenth Ave., S., Minneapolis.

W. M. Fine, district manager, states that the new location near central Minneapolis is only five minutes by car from rail depots, with parking space for customers. The new offices are air conditioned.

James Barker Appointed Copeland Sales Engineer

SIDNEY, Ohio—James E. Barker has been appointed a sales engineer with Copeland Refrigeration Corp., according to a company announcement.

James E. Barker

He will maintain liaison between the manufacturer and jobber - wholesaler accounts on engineering applications and distribution methods for Copeland refrigeration units.

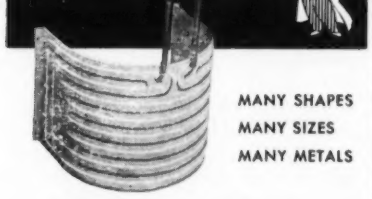
Barker is a '39 graduate of Purdue university, with a Bachelor of Science degree in mechanical engineering.

Immediately prior to joining Copeland, he was associated for five years with McCray Refrigerator Co., Inc. He was service manager of that firm and later a district sales manager. Before that, he was a refrigeration engineer with Universal Cooler Corp., Marion, Ohio.

Business Name Filed

BUFFALO—A business name has been filed in the Erie County clerk's office for Advance Appliance Service, 912 Clinton St.

Did you know you could get COLD PLATES like this?



MANY SHAPES
MANY SIZES
MANY METALS

"JOB TAILORED" Dean Cold Plates are the answer to tough refrigeration problems. You can get Cylinders, U's, Angles, Tanks, etc., made *exactly* in the size you need.

WRITE FOR TECHNICAL DATA BOOK
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DEAN STerling 9-5400 PRODUCTS, INC.

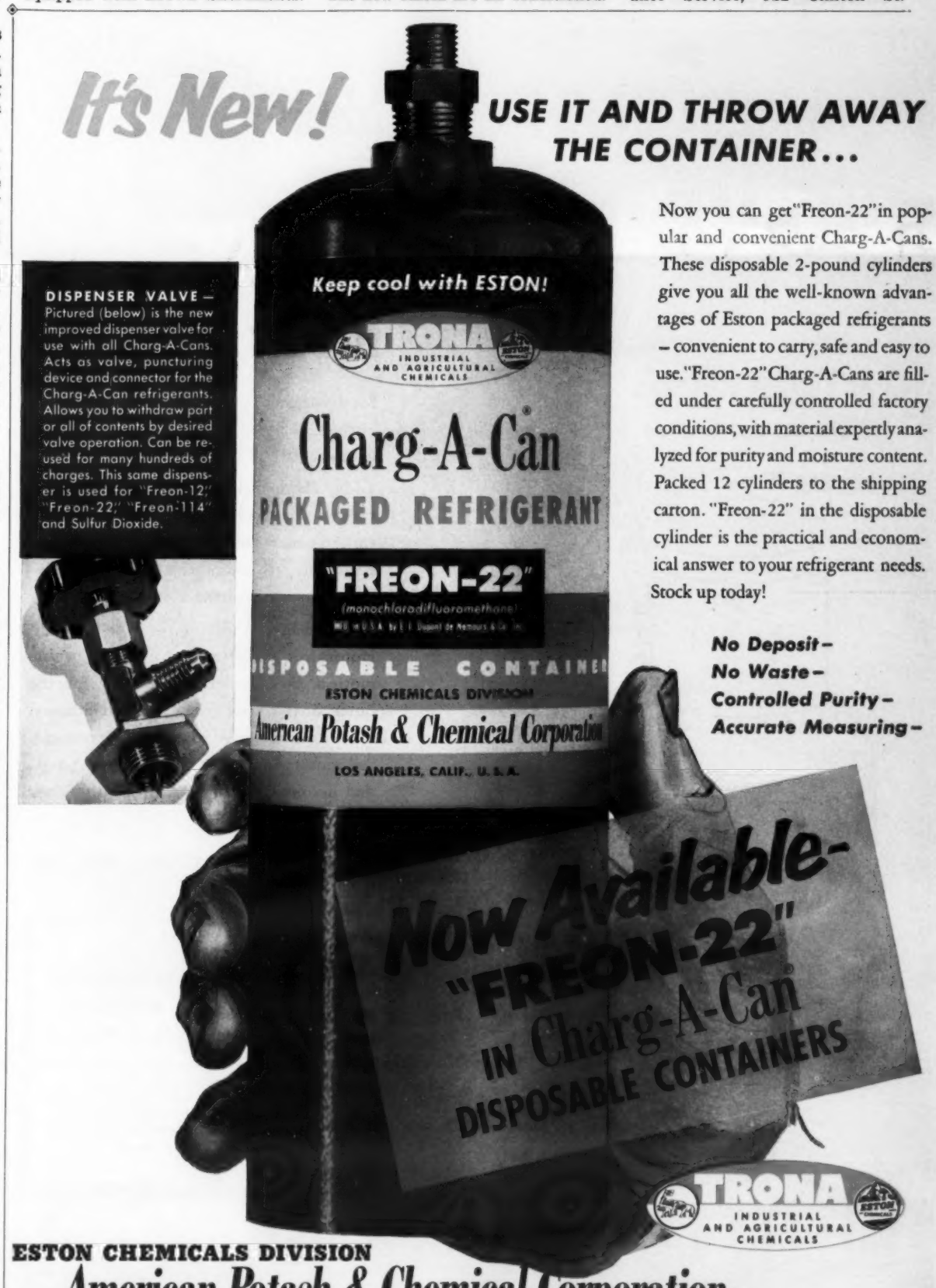
1042 DEAN STREET • BROOKLYN 38, N. Y.

"A Case of Cool Judgment"

Stainless Steel
DRINKMASTER MIX MODEL
#4D60 Holds 60 Gals. Mixt.
#4D80 Holds 80 Gals. Mixt.
Upper Part for Food Storage.
United Friguator Engrs.
Menominee, Mich.

It's New! USE IT AND THROW AWAY THE CONTAINER...

DISPENSER VALVE — Pictured (below) is the new improved dispenser valve for use with all Charg-A-Cans. Acts as valve, puncturing device and connector for the Charg-A-Can refrigerants. Allows you to withdraw part or all of contents by desired valve operation. Can be re-used for many hundreds of charges. This same dispenser is used for "Freon-12," "Freon-22," "Freon-114" and Sulfur Dioxide.



Now you can get "Freon-22" in popular and convenient Charg-A-Cans. These disposable 2-pound cylinders give you all the well-known advantages of Eston packaged refrigerants – convenient to carry, safe and easy to use. "Freon-22" Charg-A-Cans are filled under carefully controlled factory conditions, with material expertly analyzed for purity and moisture content. Packed 12 cylinders to the shipping carton. "Freon-22" in the disposable cylinder is the practical and economical answer to your refrigerant needs. Stock up today!

No Deposit–
No Waste–
Controlled Purity–
Accurate Measuring–

ESTON CHEMICALS DIVISION
American Potash & Chemical Corporation
3100 E. 26TH ST., LOS ANGELES 23, CALIFORNIA

AIR CONDITIONERS

CORRIDOR VIEW of Philco room air conditioner installation in shops of the Arcade Bldg., Lancaster, Calif., is shown above. The corridor parallels prevailing westerly wind so that in hot weather there is a constant air movement through corridor. This air movement removes possibility of heat build-up from condensers of room air conditioner.

INTERIOR VIEW of installation in shops in Arcade Bldg. is shown above. The units are placed above the doors to help conserve floor space. These are reverse-cycle units that are designed to heat or cool the same size room. They were adopted for use in the Arcade Bldg. shops by Whit Carter and associates who planned the structure. Carter reports the units operate with full satisfaction for cooling at temperatures of 110° or at 25° above zero for heating.

Room Units Draw Air from Bldg. Corridor To Condition Retail Shops In Desert

LANCASTER, Calif.—Room air conditioners keep the shops in the newly-opened Arcade building here cool in the blistering desert temperatures or warm and comfortable when temperatures drop as low as 25° F., it was reported by Whit Carter and his associates who planned the Antelope Valley town's new building.

Situated 60 miles east of Los Angeles, temperatures as high as 110° F. are not unusual in this desert country, Carter said, and combined with low temperatures down around 25°, made air conditioning that heated as well as cooled a must in the building program.

The requirements for the air conditioning and heating for the shops in the Arcade were simplicity in installation, maintenance, and operation, flexibility to meet changing weather conditions, and an easily controlled method of cooling and heating the retail shops. The shops averaged 250 sq. ft. of floor space and space was at a premium.

Philco "Thermo Cool" room air conditioners that heat the same size room as they cool were selected by Carter and his group. The floor space problem was quickly solved by installing the room air conditioners in a special opening provided over each doorway.

During cold weather in this desert community, the Philco room air conditioners provide complete heating comfort, it was reported. In spring and fall the air conditioners are used on the heating cycle in the morning, and for warm afternoons are switched to either fan or to cooling.

On hot days—and temperatures well over 100° F. are common here—Philco room air conditioners are operated on the "cool" setting of the control to provide comfortable, cooled air in each shop as desired by each tenant.

In the Antelope Valley there is always a westerly wind on hot days. The main corridor of the Arcade building runs in that direction so that the prevailing wind provides a constant change of air through the corridor. The condenser sides of the air conditioners are in the corridor and the constant air movement prevents any buildup of undesirable heat in the passageway, it was noted.

Cooler-Mink Stole Offer Sets Telephones Ringing

NEW YORK CITY—"The phones haven't stopped ringing!"

So declared Murray Altschuler, sales manager of York Wholesalers here, in describing response to advertising offering a mink stole with the purchase of a ¾-ton 1954 air conditioner, model A-75.

The advertisement did not carry a price, but Altschuler set the cost, including installation, delivery, one-year service, and factory warranty, at $420. He said the mink stole is worth about $400.

Although the ad listed 22 New York dealers and a York Wholesalers coupon with telephone number, the offer was good at any York dealer, according to Altschuler. He said York Wholesalers turned over to dealers all leads received.

Steel Adapters Allow Airtemp Casement Units To Fit Larger Windows

DAYTON—Chrysler Airtemp casement window air conditioners are being installed in many types of metal casement windows with openings larger than 16½ in. wide and 35⅜ in. deep through the use of steel adapters cut to size and drilled, the company reports.

The adapters greatly enlarge the potential casement window air conditioner market, Airtemp officials said. Installation costs for casement windows normally will run about the same as those for installing conventional window units, it was noted.

"With the adapters, as in standard-size casement window installations, there is no cutting into the metal sash or removal of the glass," the company said. "The window can be closed and locked when the unit is not in use."

Room Units Lead Sales As Fedders 3rd Quarter Earnings Top '53 Period

BUFFALO—Net earnings of Fedders-Quigan Corp. in the third quarter of the current fiscal year topped the year-ago level even though over-all sales declined despite a rise in sales of room air conditioners.

Both sales and profits were up in the first nine months.

Net sales for the third quarter ended May 31 totaled $16,021,941, compared with $18,426,629 in the corresponding period of 1953. The decline was attributed mainly to a decrease in shipments of automobile radiators and car heater cores and lower military production.

However, net profit rose from $791,211, or 48 cents a share, to $903,415, or 53 cents a share. Profits in the quarter were favorably affected by substantial improvement in the operating efficiency at the company's plants in Trenton and Newark, N. J. as a result of the rearrangement of facilities undertaken in 1953, according to the firm.

For the nine months ended May 31, net sales amounted to $41,348,219, against $37,433,574 in the like year-ago period. Net earnings were $1,896,033, or $1.10 a share, compared with $1,016,691, or 60 cents a share.

Sutton's 6-Month Sales Up 85%; Profits Up 194%

WICHITA, Kan.—O. A. Sutton Corp., Inc., has reported that sales in the six months ended May 31 soared 85% above the like year-ago period and that earnings jumped 194%.

Net income for this year's period totaled $1,614,372, equal to $1.78 a share. This compares with $549,501, or 61 cents a share, for the six months to May 31, 1953.

These are the first operating results to be announced since the company became publicly owned last month. The company manufactures "Vornado" air conditioners and air circulators.

it eats up waste!

Food waste and waste motion . . . a modern kitchen disposer eliminates both quickly, permanently.

Today's homemaker never leaves her kitchen sink as she takes care of what used to be an unpleasant chore. *In Many of America's best-known food waste disposers an Emerson-Electric motor does this work for her.*

Emerson-Electric specializes in building motors for products that eliminate waste motion, that perform efficiently for the home, on the farm, in business and industry. It has done so for 64 years, and offers standard motors in ratings from 1/20 to 5 h.p., and hermetic motors 1/8 to 20 h.p. Your inquiry is invited.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

HERMETIC MOTORS
⅛ to 20 H. P.

We offer manufacturers of hermetically sealed units a broad background of engineering experience in hermetic motor design. We also have unequalled facilities for the production of hermetic motor parts. Cooperative engineering service available without charge.
Write for Bulletin No. M422.

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

Pocket cooler profits

with INTERNATIONAL AIR CONDITIONER COVERS

MADE OF Firestone Velon

2,000,000 air conditioners already sold . . . 1,500,000 predicted for this year! Here's your chance for cool, EXTRA profits. Sell the first and finest . . . sell INTERNATIONAL Air Conditioner Covers, made of heavier gauge, trouble-free Firestone Velon. Get the jump on the market . . . let us show you how with our handsome cooperative advertising plan . . . get the facts today.

Retails from $6.45 to $8.45.

27 styles to fit every leading make from 1/3 to 1 ton, 1951 to 1954 models.

INTERNATIONAL COVERS, INC.
39 GREAT JONES STREET, NEW YORK 12, N. Y.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Profound Reason for Our Services

Thomas Edison explained his incessant and tireless reading of trade papers:

"I start where the last man left off. I get ahead by reading what he didn't do."

Listen for a Plaintive Tune

Carrier Corp.'s Cincinnati branch sports a professional song writer as its sales promotion manager. He is Frank Porter, who currently is collaborating with Jesse Stewart, famous for his Kentucky mountain country stories, on a series of ballad-type folk songs to be recorded for public sale soon.

Porter, who wrote songs for a living before he joined up with Carrier (he saw a brighter future in air conditioning) writes the music, and works with Stewart on the lyrics.

A life-long friend of Stewart, Porter disclaims that his tunes are "hillbilly" music. He contends that they are a new music form.

Polyandry or Polygamy?

Readers of "Dope" during the dull month of July were regaled (we hope) by a few excerpts from a delicious article in that sprightly men's magazine, *Esquire*.

In this article the *Esquire* author, Paul Gallico, proposed polyandry. (Go get the July *Esquire* and see why).

Contretemps "Dope" submits the following rejoinder from a subscriber:

Attention: Mr. Taubeneck
If I were living in the east
And I could have a harem
I'd make it six, the very least
Six eunuchs to prepare them
I'd sashay out to hunt each day
And chase the birds and fishes
And hurry home each night to play
With my most gorgeous dishes
But by some cruel design of fate
My home is in the west
Where Puritans at early date
Decreed that one is best
So now instead of femmes galore
There's only one, the same old bore
And now instead of chasing fishes
I stay at home and do the dishes.

GEORGE PUNDSACK

Lever Bros. Philosophy

Advice from Viscount Leverhulme, founder of Lever Bros. International:

"Basic policy in building our business was to progress a step at a time. We started with one product only. Not until this was established beyond dispute did we launch the second proprietary article. From the profits of the first we introduced and advertised the second.

"When the second was firmly established, we commenced others.

"Our policy throughout was the same—one thing at a time, each new article being launched and advertised out of the profits yielded by its predecessors."

Better Than Money

Richard Roe, in a will bequeathing a substantial estate to his son, added a postscript which probably was worth more than the money-in-the-bank.

"Learn to laugh; a good guffaw is better than medicine for most ills.

"Do your own work well, and refrain from interfering with others. (Few people can avoid that temptation).

"Outside of an untrustworthy toady few are interested in *your* troubles.

"Avoid criticizing. Stop grumbling. Try to find some good in everything and everybody.

"Smile! It pays!"

A Refrigeration Saga

Ohio university recently honored a small group of alumni with special Sesquicentennial Anniversary "Certificates of Merit." One went to E. C. Raney, founder of Ranco, Inc.—an honored firm in our industry.

Mr. Raney is one of our industry's Horatio Alger "success stories." He entered Ohio university in the spring of 1903—with $60 and a determination to become an electrical engineer. He had only one year of high school credits, which he had obtained by riding six miles to school each morning. It took him three years to work off the preparatory requirements, but he graduated from the electrical engineering course with honors.

During those five years of schooling Mr. Raney worked in the electrical departments of coal mines and steel mills to earn money for completing his studies. He also waited on tables and operated boarding clubs.

From college Mr. Raney went directly to the Warner Coal Co. as chief engineer. Shortly afterward he applied for basic patents on an automatic reclosing circuit breaker.

He tested his first model of the automatic reclosing circuit breaker in an Alabama mine. It worked perfectly, but he could not interest manufacturers in his invention. So he came back to Columbus, and organized a company to produce it.

Electric refrigeration attracted his attention, so he began to work on similar controls for household refrigerators. These new controls carried Ranco through the depression years.

In 1937, Mr. Raney was asked by George Mason of Kelvinator to produce automatic temperature controls for automobile heaters. Ranco (combination of "Raney" and "Controls") by then was an established enterprise.

That led to an interesting and happy association between Mr. Mason and Mr. Raney.

Nowadays Ranco employs more than 2,200 employes in five factories in Ohio and one in Scotland. Millions of controls for automobiles and refrigerators have been produced and shipped to all parts of the world by Ranco.

Mr. Raney possesses approximately 100 inventions patented on various control devices. He is an honorary member of Sigma Xi, scientific fraternity, and a member of Rotary in Columbus. In 1947 he received the Lamme Medal at Ohio State for Meritorious Achievement in Engineering.

He has led a full, rewarding, and honored life. "Dope" deems it a privilege to count him as a friend.

Last Gag of the Week

Vice President Nixon, in a recent speech, called for party unity. At any political gathering the two things that are called for most are unity and more ice from room service.—*Detroit News.*

Philco Distributors, N. Y. C., Will Cover Northern N. J.

PHILADELPHIA—Philco Corp. has announced that the operations of Philco Distributors, Inc., New York City, will be extended immediately to include the northern New Jersey territory.

"By mutual understanding with T. A. O'Loughlin & Co., formerly Philco distributor for the northern New Jersey area, this territory will now be covered by Philco Distributors, Inc., under the general supervision of the New York City headquarters," according to John M. Otter, Philco vice president.

Insurance Co. Constructs Air Conditioned Building

ATLANTA—Construction is to begin immediately on a new building, to cost $562,190, for Federated Mutual Implement & Hardware Insurance Co. here. The new structure, with a floor area of 35,000 sq. ft., will be at 1400 W. Peachtree St., N.W. It will be air conditioned.

Texarkana Firm Incorporated

AUSTIN, Texas—Tri-State Air Conditioning Co. of Texarkana has recently been incorporated, records in the Secretary of State's office show here. Capital stock is listed as $1,000 by the incorporators, Reuben M. Ginsberg, Ellsworth Weinberg, and Regine Ginsberg.

Move in Front with Mouldings by...

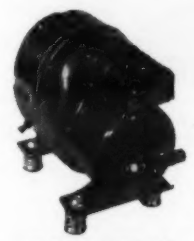
JOHN LEES

MOULDINGS, STAMPINGS, ASSEMBLIES. Complete Facilities for Buffing, Electrolytic Polishing, Welding, Forming and Aluminum Anodizing.

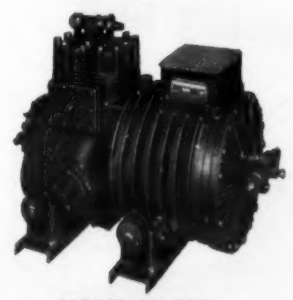
Functional and decorative mouldings by JOHN LEES will give your product that extra eye appeal which makes it stand out wherever it is displayed. That means more sales. Let us supply you with standard mouldings or manufacture to your specifications. Recommendations furnished without obligation. Write for catalog.

JOHN LEES
DIVISION of THE SERRICK CORPORATION
Kilgore Avenue, Muncie, Indiana, U.S.A.

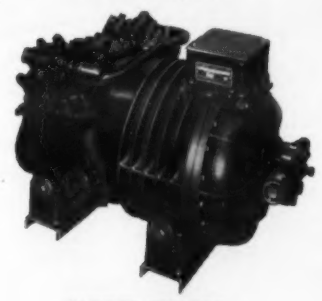
MODEL PL-32
Low Temperature
⅓ HP. Single-Cylinder



MODEL PM-99
Medium Temperature
1 HP. Twin-Cylinder



MODEL PH-300
High Temperature
3 HP. Twin-Cylinder



MODEL PH-500
High Temperature
5 HP. Four-Cylinder

Servel

add the EXTRA "SELL" that's EXCLUSIVELY SERVEL!

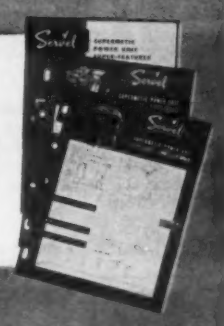
Servel SUPERMETIC
HERMETICALLY SEALED POWER UNITS
for fixtures that deserve the best

AVAILABLE WITH REFRIGERANT-COOLED MOTORS AND FORCE-FEED LUBRICATION

. . . for high, medium or low temperature applications
. . . for expansion valve systems (¼ to 7½ HP models)
. . . for capillary tube systems (¼ to 3 HP models)

Don't shortchange the sales chances of otherwise superior fixtures by your choice of power units! Check Servel SUPERMETICS — for weight-free, space-saving design — for quiet operation and high-capacity performance — for low-cost protection provided by Servel's Factory Warranty. That's the kind of quality features you will find in every SUPERMETIC. The more exacting your power unit requirements, the more important it is that your fixtures should be "Powered by Servel Supermetic!"

WRITE NOW
For Free Literature
Ask for
SUPERMETIC
Power Units Model Sheets



SERVEL, INC.
COMMERCIAL REFRIGERATION DIVISION
EVANSVILLE 20, INDIANA

THE NAME TO WATCH FOR GREAT ADVANCES IN REFRIGERATION AND AIR CONDITIONING

RETAIL OUTLET for soft ice cream in River Edge, N. J. serves as showroom for the "O-So-Good" ice cream freezing equipment, marketed by Cidega Machine Mfg. Co., Inc.

Soft Ice Cream Drive-In Is Equipment Showroom For Freezer Manufacturer

RIVER EDGE, N. J.—Cidega Machine Mfg. Co., Inc. here is using a novel showroom to merchandise its new line of "O-So-Good" soft ice cream freezers.

Taking advantage of its location on Route 4, the company recently built a drive-in stand on to its factory building, to give prospective purchasers the opportunity for detailed study of the freezer in actual use.

In addition to the advantages of "live-action" demonstration, Cidega expects the showroom to pay for itself through retail sales of soft ice cream cones and sundaes, and lemon and orange ices.

Opening of the drive-in was publicized in the local press, and free cones were given to all children on the opening day.

Super Flaker Corp. Named Distributor for Freez-King

NEW YORK CITY — Appointment of Super Flaker Corp. as distributor for the Freez-King Corp. in New York was announced recently by Murray Danziger, vice president of Super Flaker.

The company distributes commercial refrigeration and air conditioning equipment in both the domestic and export markets, Danziger said.

Plan To Air Condition New Coca-Cola Plants

CHARLOTTE, N. C. — According to George C. Snyder, general manager of the Charlotte Coca-Cola Bottling Co. and affiliated plants in this area, new, completely air conditioned plants to house Coca-Cola bottling operations at Statesville and Albermarle, N.C. will be constructed in the near future.

Restaurant & Bar Equipment

76 Manufacturers Authorized To Affix National Sanitary Foundation's Seal Of Approval to Products Meeting Standards

ANN ARBOR, Mich.—Seventy-six manufacturers have been authorized to affix the NSF testing laboratory seal of approval to equipment which meets the requirements of standards 1, 2, and 3, the National Sanitation Foundation Testing Laboratory, Inc. here, announced recently.

Eight manufacturers of soda fountain and luncheonette equipment have met standard No. 1, 60 makers of custom built food service equipment have met standard No. 2, and eight manufacturers of dishwashing machines have met standard No. 3 on certain of their models.

The qualifying manufacturers under each standard are as follows:

Soda Fountain and Luncheonette Equipment

The Bastian-Blessing Co.; Dunhill Soda Fountain Corp.; The Fischman Corp.; Grand Rapids Cabinet Co.; Holderle Brothers, Inc.; Stanley Knight Corp.; Phenix Soda Fountain Co.; and United-America Soda Fountain Corp.

Custom Built Food Service Equipment

The Arkay Co.; S. Blickman, Inc.; B & W Metals Co.; S. J. Casper Co., Inc.; Century Equipment Co.; Bramhall, Deane Co., Dallas Sheet Metal Works, Inc.; Demmler and Schenck Co.; Dohrmann Commercial Co.; Duke Mfg. Co.; Dohrmann Hotel Supply Co.; Ershler & Krukin, Inc.; Food Equipment Co.; General Hotel Supply Co.; Grayson Equipment Co.

Hassenfratz Equipment Co.; Heifetz Metal Crafts, Inc.; Illinois Range Co.; Industrial Metal Fixtures; Alex Janows & Co.; Jones, McDuffee & Stratton Corp.; A. L. Kiefer Co.; Leitner Equipment Co.; Lewis Metal Equipment Co.; Mastercraft Metals Co., Inc.

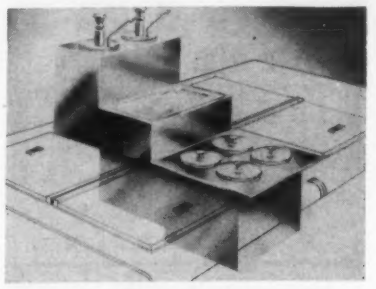
The McDonald Co.; Marvin & Kretchmer, Inc.; Morandi-Proctor Co., Inc.; National Cornice Works; Lang & Co.; Niagara China & Equipment Co.; Kitchen Equipment Div., Harold E. Peterson, Inc.; Albert Pick Co., Inc.; Progressive Kitchen Co., Inc.

Rehco Corp.; Ruslander & Sons, Inc.; The Stearnes Co.; Servco Equipment Co.; Smith-St.John Mfg. Co.; Southern Equipment Co.; Stainless Food Equipment Co.; Nathan - Straus - Duparquet, Inc.; Thompson Winchester Co., Inc.; Traub-Estabrooke Co.; Tyson Metal Products; Universal Products Corp.

John Van Range Co.; Van-Vetter, Inc.; Viking Equipment Co.; Workrite Equipment Co.; Zahner Mfg. Co.; Progressive Metal Equipment Co.; The Joesting & Schilling Co.; Marine Works; Curtis Equipment Corp.; Dixie Equipment Co.; N. Wasserstrom & Sons, Inc.; Columbus Metal Fixture Co.; Scheff Mfg. Co.; Star Metal Mfg. Co., Inc.

Dishwashing Machines

G. S. Blakeslee & Co.; Champion Dishwashing Machine Co.; Colt's Mfg. Co.; Faspray Corp.; Hobart Mfg. Co.; Insinger Machine Co.; Toledo Scale Co., Rochester Div.; Universal Dishwashing Machine Co.; Jackson Products Co.



Phenix Fountainette Fits Any Ice Cream Cabinet

MOUNT VERNON, N. Y. — A new unit called the "Phenix Fountainette," designed to give every store with an ice cream cabinet the added facilities of a soda fountain, has been introduced by the Phenix Soda Fountain Co. here.

The Fountainette fits into any standard ice cream cabinet opening. It provides facilities for sundaes, frappes, malteds, and even ice cream sodas made from bottled carbonated water kept in the Fountainette's large cold storage compartment.

The Phenix Fountainette is equipped with a utility drip-pan cover to catch any possible drippings from the syrup pumps. The Fountainette is specially insulated to insure that liquid products will not freeze but will be properly cooled.

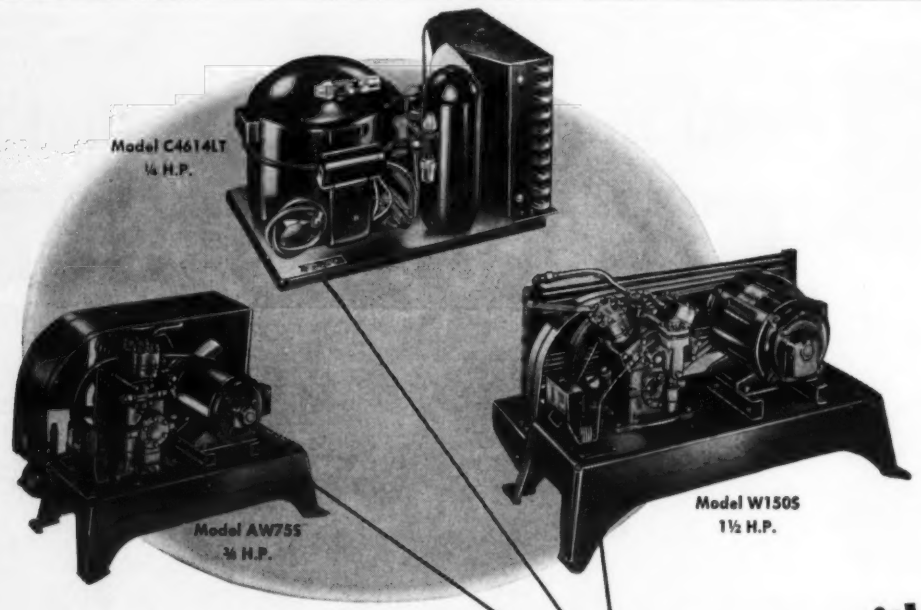
Additional pumps, jars, and other arrangements can be furnished. Chocolate pump in place of syrup pump, or two extra jar covers with ladles attached may be provided for use in the center section. The wholesale net price of this new unit is $92.75.

Galveston RSES Hears Talk by David O'Brient

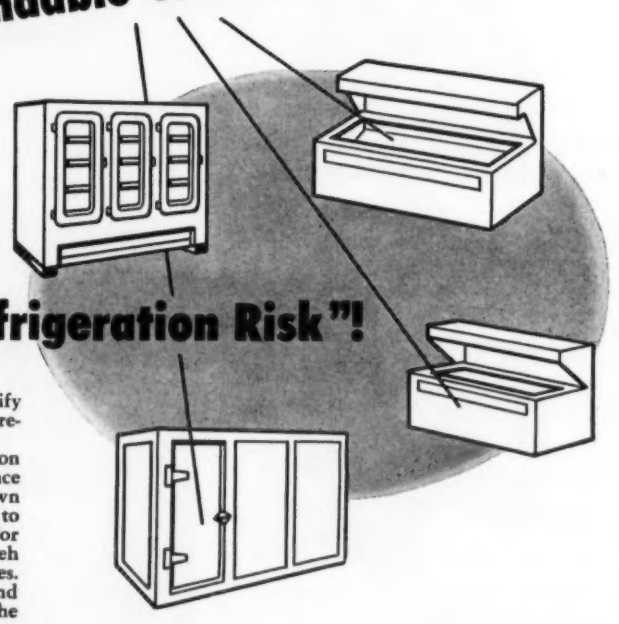
GALVESTON, Texas — David O'Brient, sales engineer for Bush Mfg. Co. and Heat-X-Changer Co., was guest speaker at the July meeting of the RSES chapter here.

His talk covered the sizing and selection of unit coolers and the applications and advantages of suction-liquid heat interchangers. About 25 members attended.

Wanted:
Manufacturers' Representatives
Write, wire or 'phone, outlining territory and products presently handled.
TRUE MFG. CO. (See Ad Below)
2905 PINE ST., ST. LOUIS, MISSOURI
JEfferson 5-6700



Trouble-free refrigeration begins with a TECUMSEH dependable condensing unit



. . . and eliminates "Refrigeration Risk"!

That's why it pays store owners and managers to specify Tecumseh condensing units for all their refrigeration requirements.

It's not only good sense but good insurance to insist on getting the best equipment possible. With 20 years' experience in building over 18,000,000 compressors, Tecumseh is known for quality products. Quality that results in low initial cost to you as well as complete freedom from service problems. For the cost-conscious store owner and manager the Tecumseh compressor offers the best bet against refrigeration failures. With Tecumseh on the job you can devote your full time and energy to your main function—selling food, secure in the knowledge that you have dependable refrigeration equipment. Investigate the advantages of the complete Tecumseh line for all applications.

TECUMSEH

TECUMSEH PRODUCTS
TECUMSEH, MICH Company

EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICH.

★ The world's largest producer of Compressors for the refrigeration industry. ★

true
MODERN COOLERS FOR A MODERN AGE

True Stainless Steel Coolers are of modern streamlined design—beautiful in appearance with the finest refrigeration money can buy. True also manufactures a complete line of baked enameled coolers, both self-contained and remote.

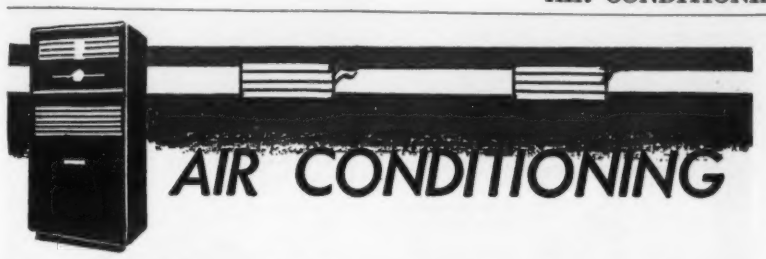
True Features . . .
(1) Streamlined cabinet design to withstand high humidity and salt air*,
(2) Fingertip touch roll-back doors,
(3) Self-contained models that eliminate expensive installation costs,
(4) Maximum bottle capacity for floor space used.

*True sales in Puerto Rico have doubled during the past year because of this important feature. Today they are one of the most sold coolers on the Island.

Model TS-621 Self-Contained, ready to plug-in, 21 case dry cooler with 12 ice cube trays and water stand—Available in sizes up to 10' long.

Write or Call Today for Complete Details.

TRUE MANUFACTURING COMPANY
LUcas 6700 2905 PINE STREET • ST. LOUIS, MISSOURI



Survey Shows Water Rates, Restrictions In Various Communities in Michigan

HIGHLAND PARK, Mich. — Pontiac and Birmingham, Mich., both located in the north Detroit area, have recently adopted ordinances restricting the use of water in air conditioning, according to a survey of Michigan cities recently made by the Highland Park Board of Commerce.

Pontiac requires the use of "water conservation equipment," meaning evaporative condensers or cooling towers, on all systems of 3 hp. and over. Birmingham prohibits systems using more than 10 g.p.m., making the need for water conservation equipment automatic on larger installations. Both cities require permits for all systems using city water.

The survey also disclosed that Flint, Mich. and several other cities have similar restrictive ordinances under consideration at the present time. Many cities have substantial sewer charges, in addition to the regular water rates, and others require that the water from air conditioning systems enter storm sewers, and not the sanitary sewer system.

The survey was made at the suggestion of T. Hollister Mabley, general manager of Temp-Matic Wholesalers, Inc., who is also president of the Highland Park Board of Commerce, and was made by W. J. Weddell, executive secretary of the Highland Park Board.

"We know that every businessman who contemplates the installation of air conditioning in his office, home, or factory is interested in the cost of water, and the restrictions," Mabley said.

Water rates in the state range from $3 per thousand cubic feet in Alpena and Birmingham down to 50 cents per thousand in Traverse City, which is on the edge of Grand Traverse Bay.

Other cities with water rates high enough to warrant the use of cooling towers or evaporative condensers as a "must" on every installation included Ann Arbor ($2.40), suburbs of Grand Rapids ($2.24), Saginaw ($2.25), and Royal Oak ($2.70).

The rates quoted in the tabulation below are based on a "Commercial" consumption of approximately 40,000 cu. ft. per quarter—the amount required by a 3-hp. water-cooled air conditioning system. Meter charges are not included, as in all cases the owner is paying for meter service.

WATER RATES AND REGULATIONS—MICHIGAN
(Based on Average Use of 40,000 Cu. Ft. per Quarter)

Adrian
W. &. S.—$1.50 per M.
Alpena
Water—$3.00 per M.
Ann Arbor
W. & S.—$2.40
Battle Creek
W. & S.—$1.70 in city
W. & S.—$2.40 outside city
Benton Harbor
Water—$1.80 in city
Water—$3.60 outside city
Detroit
Water—$1.05
Detroit Suburban Area
Birmingham
W. & S.—$3.00
Water limit 10 g.p.m.
Special permit required
Dearborn
Water—$1.15
Temperature limit not less than 80° when outside is over 90°.
Pleasant Ridge
Water—$2.57
Royal Oak
W. & S.—$2.70
Flint
Water—$1.46 per M.
Restrictive Ordnance pending in 1954.
Grand Haven
Water $1.50 per M.
Grand Rapids
W. & S.—$1.40 per M in city
W. & S.—$2.24 outside city
Holland
Water—$1.20 per M in city
Water—$2.00 per M outside city
Ironwood
Water—$1.50 per M.
Kalamazoo
Water $1.10 per M.
Lansing
W. & S.—$1.50 per M.
Add 40% for three months summer operation
Manistee
Water—$0.75 per M,
plus $5 quarter sewer fee
Marquette
W. & S.—$1.00 per M.
Marshall
Water—$1.00 per M.
Midland
Water—$1.63 per M.
Mount Clemens
W. & S.—$1.30 per M.
Niles
Water and Sewer—$0.92 in city
W. & S.—$1.85 outside city
Pontiac
W. & S.—$2.50 per M.
Systems—3 hp. and over all require water-saving equipment
Permit required
Port Huron
Monthly meter charge plus
W. & S.—$0.75 per M in city
W. & S.—$1.10 outside city
Saginaw
W. & S.—$2.25 plus meter charge
St. Joseph
Water—$1.80 in city
Water—$3.60 outside city
Traverse City
Water—$0.50 per M plus meter
No sewer charge for disposal in storm sewers.
Ypsilanti
Water—$1.20 per M
No sewer charge for disposal in storm sewers.

Solves Two-Fold Problem!

Pre-Assembled Central Station System with Built-In Evaporative Condenser Saves Space

ATLANTA — Factory-assembled central station air conditioning equipment, with built-in evaporative condenser, has solved a two-fold space problem for H. Mendel & Co., Atlanta dry goods wholesaler, according to William F. Applegarth, local United States Air Conditioning Corp. representative.

The high cost of space in the five-story downtown building occupied by the Mendel company demanded the use of a compact air conditioning plant to provide 30 tons of cooling for two floors of store and display area, Applegarth explained.

Furthermore, utilization of a remote cooling tower for water recirculation was precluded by space considerations. In this congested business area there was no available outside space for placement of the tower and a roof installation was ruled out by the expense involved in long piping runs and in needed structural reinforcement of the roof of the building.

A UsAirco 30-ton "Refrigerated Kooler-aire" unit, which contains all of the elements of a central air conditioning plant in a single casing, including evaporative condenser for water recirculation, was placed on the first floor with ductwork distributing conditioned air to the main store area and buyer display room. This equipment is meeting all of the requirements of the installation with a single unit measuring only approximately 11½ by 7 by 4½ ft., Applegarth said.

Fresh air and evaporative condenser air are ducted in from the outside and evaporative condenser exhaust is ducted out through short runs passing through existing window openings, eliminating the need for any wall cutting operation.

Carrier To Air Condition Cincinnati Dept. Store

CINCINNATI — According to Henry W. Moore, manager of the industrial air conditioning sales department of Cincinnati Air Conditioning Co., his firm has received a contract for air conditioning, heating, and ventilation system for the McAlpin Department Store to be erected in the new Western Hills Plaza Shopping Center. The air conditioning machinery is to be made by Carrier Corp.

New LOYD SCRUGGS 6-POLE SHADED POLE MOTOR

Perfect for Room Air Conditioner and Fan Applications

Here's *custom-built* motor service at stock motor prices . . . to help you develop better products at lower cost!

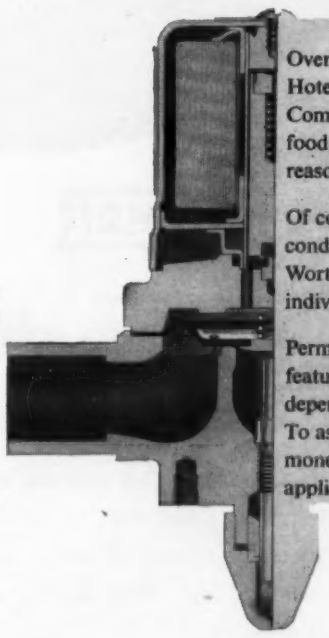
Take advantage of Scruggs' fast-growing versatility in the fractional horsepower motor field. New plant facilities now permit wider scope, quick deliveries and lower pricing.

Check These Quality Features:

1. Copper-weld rotor for uniform performance
2. Long-life sintered bronze bearings
3. Extra large oil reservoirs
4. Extremely quiet running
5. Rotor electronically balanced
6. Double varnish impregnation
7. Design practically eliminates AC hum

WE'LL SEND YOU a sample motor built to your specs. Write today for detailed Data and Performance Chart. Immediate service!

THE Loyd Scruggs COMPANY
Festus, Mo.—A Dozey Corporation Subsidiary
MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934



Overlooking the blue waters of the Gulf of Mexico, stately Hotel Galvez is one of Galveston's most famous resort Hotels. Completely modern guest rooms with radio and television, the superb food, and private swimming pool for guests, are three of the reasons guests return year after year.

Of course, each room at the Galvez has personalized air conditioning, and Decker & Roberts, contracting engineers of Fort Worth, Texas, chose J-E Solenoid Valves to provide this individual temperature control.

Permanently quiet operation is only one of the advanced design features of J-E Solenoid Valves. Their record of service-free dependability far exceeds any others you may have used in the past. To assure the best possible installation, to save time, trouble and money in any heating, cooling, air conditioning or refrigeration application, call your refrigeration wholesaler or write direct.

All J-E Solenoid Valves are unconditionally guaranteed for 18 months

- **TIGHT SEATING**—no bubble tolerance.
- **SIMPLICITY**—only two moving parts.
- **LONG LIFE**—cool coils.
- **DURABILITY**—all corrosion-resistant material.
- **OPENING PRESSURE DIFFERENTIAL**—higher than most others on the market.

LOOK FOR THE RED DIAMOND JE
SOLENOID VALVES THAT *SURPASS* THEIR SPECIFICATIONS
JACKES-EVANS MANUFACTURING COMPANY
Controls Division: 4427 Geraldine Avenue • St. Louis 15, Missouri

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F. M. COCKRELL, *Founder*

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Amateur Advice To Factory Managers and Personnel Veeps

Man and boy, your editor has walked hundreds (yea, perhaps thousands) of miles through factories during the last quarter century.

Many of these conducted bunion derbies were an inspiration and a revelation.

Others have been merely tiresome. All the while proud production executives were showing us new processes, imaginative tooling, etc., your editor was keeping an eye on the hourly-paid workers. Reason: we believe "labor relations" and labor productivity often is the most important factor in the control of costs and quality.

On almost every trip one thing struck us hard:

Over and over again we have been appalled by the frightening, obliterating, ear-searing, and even sickening NOISE in too many factories.

How workers stand it, day in and day out, we don't know. No wonder they go out on wildcat strikes for ridiculous reasons. *It's a relief to escape the bedlam.*

Screaming drills, snarling metal cutters, thunderously crunching presses . . . combined in a horrible cacophony of grating aural assaults . . . all lead to mental and physical breakdowns, plus general dissatisfaction with working conditions.

Petty grievances thus are blown up out of all proportion.

NOISE probably is the real malefactor.

Some of the newer plants we've toured recently enjoy a much lower decibel level, thanks to advanced-design machinery and acoustical deadeners.

It's our fervent feeling that every company in our industry could reduce labor troubles, raise output, and increase profits by retooling and revamping factories with modern equipment toward the end of making them *quieter.*

Any arguments?

They'll Do It Every Time . . . . . Jimmy Hatlo

YOU-CAN'T-WIN DEPT.
APPLYING FOR A NEW JOB, THIS GAL IS TYPED THUS···
CHIEF···THIS APPLICANT LOOKS GOOD··SIXTEEN YEARS' EXPERIENCE WITH THE SAME FIRM···
NO-NO! TOO LONG WITH ONE OUTFIT! NOT DIVERSIFIED ENOUGH!
PERSONNEL
WHILE THIS GAL WHO'S GOT WHAT THE FIRST ONE DIDN'T····SHE DOESN'T SUIT, EITHER···
UH···CHIEF··· THIS ONE HAS HELD SEVEN RESPONSIBLE POSITIONS IN FIFTEEN YEARS·· VERY GOOD REFERENCES!
NO-NO! THAT TYPE'S NOT STEADY! USE YOUR BRAINS, MAN!
PERSONNEL
JIMMY HATLO

Let's Be Practical About An Economic Trinity

A wise man in our industry tells us that three ultimate truths, if accepted universally, would solve most of our problems, to wit:

1. You can't get something for nothing. Too many people think they can. So they gamble and politic. Parasites do get something for nothing, occasionally, but their "gravy train" eventually runs out of gravy.

2. You can't spend more than you own—indefinitely. Borrowing is equivalent to the dope habit. This axiom is equally true for a person, a business, or a government.

3. You cannot equalize ability by a handicap system. If naturally fast runners are ordered not to beat slowfoots, they won't try. And so their school track team doesn't win. Hence, in a national tax program, it is wrong to set up handicaps so that the incapable and the brilliant come out even. Handicapping should be left for the exclusive use of horse betters and bingo stewards.

If everyone lived by, and promulgated, these *three economic truths,* the whole world could forget about Communism, the H-bomb, and wars, our wise Elder Statesman avers.

When we begin to know not only what men do but why they do it, we stand on the threshold of truth.—*Union Signal.*

Just as in the physical order, a healthy body is one which develops restorative powers, so in the emotional realm, psychic health is a matter of staging a successful comeback from psychological wounds. Emotional health is less a mysterious gift of the gods than an understandable gift of growth.—WILLIAM S. LYNCH.

PHOTO OF UNICON INSTALLATION
AT SHOYER'S RESTAURANT, PHILA., PA.
BY ATLANTIC REFRIGERATION AND EQUIPMENT CO., PHILA., PA.
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OFF THE CHEST

Bernard O. Leininger Co.
R.D. #2
Lehighton, Pa.

Editor:

In the air conditioning and refrigeration field you may know of an air conditioning or refrigeration manufacturing company which wants to expand or relocate. I feel that in this section of Pennsylvania it would be a good retail and manufacturing location for a reliable firm.

We are located along route 443 between Lehighton, Pa. (Route 99) and Tamaqua, Pa. (Route 309). In this area, the eastern section of the Turnpike is being constructed at present, and route 443 will be widened to four lanes.

Mail us the firm name and type of product they manufacture along with the address and our committee will check with them.

We have built our own fire company with all volunteer labor and expect it to be completed in the near future. We also have two fire engines and ambulance services purchased last month.

BERNARD O. LEININGER

Dryomatic Corp.
812 N. Fairfax St.
Alexandria, Va.

Editor:

I think that the NEWS is the best edited, easiest-to-read trade paper that I have ever seen. I couldn't pass a single week without "Inside Dope."

ANTHONY HASS,
Sales Manager

Handbook Gives Hints On Vacuum Pump Care

PHILADELPHIA — Dozens of practical tips on installing, operating, and maintaining vacuum pumps and vacuum systems are contained in "How to Care for Your Vacuum Pump," a new 16-page handbook just issued by F. J. Stokes Machine Co. here.

The manual contains such hints as: the proper way to make leakproof connections in vacuum piping layouts; recommended types of gauges, valves, fittings, and gaskets; step-by-step trouble-shooting procedures to be followed when the pump is knocking, will not start, or will not produce a satisfactory vacuum; and some 25 "Do's" and "Don'ts" to insure long and trouble-free service life of vacuum systems.

Copies are available free on request.

O. S. McGuffey Appointed Tranter Chief Engineer

LANSING, Mich. — O. S. McGuffey, who has handled research and development work in many phases of transport refrigeration for Tranter Mfg., Inc. here, has been named chief engineer of the firm, James R. Tranter, president, announced recently.

O. S. McGuffey

He succeeds Carl I. Bloomquist, who died last February.

McGuffey will direct all engineering activities, including tooling and plant engineering, product and process engineering, and quality control for the Platecoil Div., which manufactures heat transfer equipment, and the Kold-Hold Div., which manufactures refrigeration equipment.

The new chief engineer first entered the employ of the Lansing firm when it was founded in 1932 as Kold-Hold Co. He worked on introduction of the company's original products and did considerable work in developing proper units for truck refrigeration and similar applications, including subzero industrial cabinets and stratosphere chambers.

His early career included several years of engineering work in motor coach and bus body manufacturing and service with Kelvinator in Detroit. Except for a few years, McGuffey has been affiliated with Tranter since 1932.

New Refrigeration Catalog Released by Mueller Brass

PORT HURON, Mich.—Mueller Brass Co. here has announced publication of a new 40-page catalog and price list on its complete line of refrigeration and air conditioning equipment.

Illustrated with photographs and cut-away drawings of various parts, the new catalog includes listings of all types of Mueller valves, driers, fittings, and accessories for commercial refrigeration and air conditioning systems. Specifications and list prices are included.

Pappas Buys Varner Building

HOUSTON, Texas — Pappas Brothers, owner of the Pappas Refrigeration Co., has purchased the Varner building, formerly known as the Great Southern Life Insurance Co. building, located at the corner of Louisiana and Preston Sts.

Kirse Gets Service Post At Servel Air Conditioning

EVANSVILLE, Ind. — R. L. (Rudy) Kirse, of Palisades Park, N. J., recently was named as assistant service manager of the air conditioning division of Servel, Inc., according to Robert E. Davis, service manager.

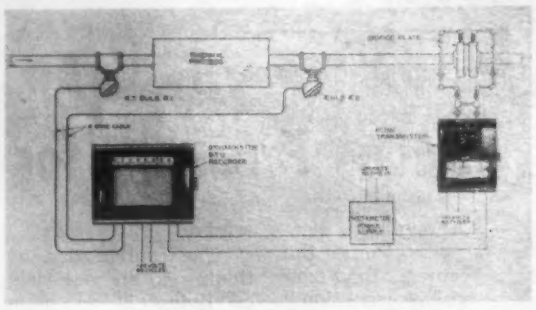
Kirse, who was formerly a field service representative, will make his headquarters at the factory here.

Before joining Servel last year, Kirse was supervisor in charge of all Gulf Oil Corp. air conditioning and commercial refrigeration installation and service in Venezuela. Previously he had been service manager for commercial refrigeration distributors in Haledon, N. J.; Jersey City, N. J.; the Bronx, N. Y.; and New York City.

Dehumidification Aids Offered on Desomatic Units

FALLS CHURCH, Va.—Descriptive literature covering "Desomatic" dehumidification equipment and a moisture load calculation data sheet and questionnaire form have been recently issued by Daly, Merritt & Sullivan, Inc. here.

In addition to information on Desomatic dehumidification units, the brochure also contains an explanation of dehumidification and the various means by which it can be accomplished.


Bristol B.t.u. Recorder.

New Bristol 'Dynamaster' B.T.U. Recorder Measures Heat Input, Output Rate

WATERBURY, Conn. — Fast, continuous measurement, and control of rate-of-heat input or output are features of the new "Dynamaster" B.t.u. recorder-controller systems recently announced by The Bristol Co. here.

These can be used to measure and record the quantity of heat supplied to or drawn from process vessels, refrigerating plants, air conditioners, and a wide variety of other heat-exchanging devices, the company said. Control apparatus is available for regulating the temperature or flow-rate of the heat-transfer medium.

In the basic Bristol B.t.u. recording system, one Dynamaster measures the temperature difference with two resistance thermometer bulbs and receives the flow-rate from a flow transmitter. From the two variables, it then continuously computes and records the B.t.u. product.

Other systems are offered that provide for recording temperature difference along with B.t.u. on a single round or strip chart by a single two-pen Dynamaster, recording of B.t.u. and either flow-rate of temperature difference by two separate instruments. In most instances, totalizers can also be furnished with the B.t.u. recorder to integrate the energy or heat-transfer.

Matched resistance bulbs are not required. An optional bulb trimming adjustment can be supplied, enabling the user to install a replacement bulb, and match it to the system by trimming the bulb and lead wires with the bulb trimming adjustment.

Other systems to meet specific needs can be provided.

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As valve manufacturers, we know what's needed to retain a 100% clean valve and system. That's why we unqualifiedly recommend the New Trap-Dri, Model 410. Only this drier gives you this 6-point protection:
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6 Units shipped from factory with new green "hermetically-sealed" end caps to keep out all moisture and dirt until installed.
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But They Welcome the Boom

Phenomenal Growth of Air Conditioning Presents Some Serious Problems for Electric Utilities

SEATTLE — Although the electric utility industry "welcomes the air conditioner boom and has contributed to it by active promotion," the phenomenal growth has presented serious power problems, according to Clive E. Baugh, manager of electrical distribution for Pacific Gas and Electric Co. of San Francisco.

These problems were outlined by Baugh at the Room Air Conditioner Conference held during the 41st semiannual meeting of the American Society of Refrigerating Engineers here.

Problems Listed

He summarized them as:

"1. Most of these units will be installed in family housing units, many of which are not wired for heavy duty motor-operated appliances.

"2. Present low power factor of room type air conditioners.

"3. High demand factor (low diversity).

"4. Low annual load factor."

But utilities, he said, have "full confidence that the unfavorable features of air conditioning load can and will be overcome by cooperative effort in due time.

"The contribution of air conditioning to an ever-rising standard of living is so important that everyone connected with the industry from manufacturers through distributors, dealers, and wiring contractors, to the agencies that supply power must work together to insure reasonable profits and customer satisfaction.

"In the summer of last year, a hot spell occasioned an increase of 500,000 kilowatt demand on the Pennsylvania-New Jersey Interconnection alone, equivalent to a ½% increase in demand for each degree temperature rise above 70°. On the Southwestern Gas and Electric Co. system a cold front which reduced temperatures from 101° to 76° reduced demand from 88,400 kilowatts to 59,800 kilowatts, indicating an increase in demand due to air conditioners of slightly under 2% for each degree increase in temperature above 76°.

"In many sections of the country where peak loads have traditionally occurred in the winter months, air conditioner demands have already been substantial enough to change the time of system peaks to the summer months and there is a nationwide trend toward summer peaks. The utility industry has met the problems occasioned by this phenomenon, but not without difficulty.

"All forms of air conditioning equipment present power supply problems of one character or another. This paper is supposed to deal primarily only with problems associated with room type air conditioners," he explained.

Circuits Inadequate

"Many of the receptacle circuits in older dwellings are 15-ampere, 120-volt circuits which are reasonably adequate for portable lamps, plug-in cooking and heating appliances, refrigerators, sewing machines, fans, etc.

"The National Electric Code limits the loading of these circuits to 12 amperes if motor operated appliances are connected in Paragraph 2125-a, titled 'Motor Operated Appliances,' which states 'the total load shall not exceed 80% of the branch circuit rating if motor operated appliances are supplied.' It also states the Article 430 is to apply 'if the circuit supplies only motor operated appliance loads' application of which clause would result in the same loading limitation.

Table 1—Electrical Characteristics for 115-Volt Motors

Horsepower	Power Factor %	Full Load Amperes	Kw.	KVA
Without Power Factor Correction				
⅓	59	5.6	.38	.644
½	60	7.8	.538	.897
¾	62	10.8	.770	1.242
With Power Factor Correction				
⅓	90	3.67	.38	.422
½	90	5.2	.538	.598
¾	90	7.44	.770	.856

¾-Hp. Units Too Large

"Room air conditioners of conventional design rated ½ hp. and lower should operate satisfactorily on these circuits and ordinarily some additional load per circuit can be carried without exceeding the 12 ampere rating; ¾-hp. motors in many makes of air conditioners of current design draw from 10.8 to 12 or more amperes of running current and fan motors increase these values by amounts on the order of 1.5 amperes. It is apparent that these ¾-hp. air conditioners cannot be operated on 15-ampere 120-volt circuits within the 12-ampere limitation unless steps are taken to reduce ampere loading," Baugh said.

"Most utilities have rules which limit the starting current of motors in order to hold voltage drop through transformers and secondary mains to values that will not occasion annoying lamp flicker on adjoining premises. A generally accepted standard rule limits the starting current of manually started single phase motors served on domestic schedules to 57.5 amperes for 230-volt motors and 46 amperes for 115-volt motors.

"The starting current values for automatically started motors at these two voltages are one-half of the values quoted: 28.75 amperes for 230-volt motors and 23 amperes for 115-volt motors.

"Most well designed conventional ½-hp., 115-volt motors will conform to this requirement if manually started. Unless special care is used in motor selection, or unless provisions are incorporated in air conditioner designs to reduce starting current, ¾-hp., 115-volt motors might not conform to starting current limitations even for manual starting," he declared.

"Motors larger than ¾ hp. must be operated on 240-volt circuits to meet running current and/or starting current limitations.

"In my opinion — insofar as running current is concerned— utilities should not be placed in a position where they will be forced to rule that they will not serve ¾-hp., 115-volt single phase motors inasmuch as codes governing house wiring provide adequate safeguards. They are, however, in a position to regulate starting currents of such motors, as excessive starting currents impair service to other customers, and it is the utility's responsibility to avoid this.

Failure To Comply with Code

"Failure to comply with Code provisions governing house wiring and circuit loading and with utility regulations governing starting current will result in fuse blowing, overheated house circuits, annoyances to other customers, and general customer dissatisfaction with air conditioning performance," Baugh warned.

"The term 'power factor' as applied to a motor expresses the relationship between the current input to the motor that is transformed into energy output and the total current to the motor which is the vector sum of the above current and the current used to magnetize the magnetic structure of the motor.

"The current that is transformed into energy is the ampere component of metered watt input to the motor. Magnetizing current, although essential to the operation of the motor, is not metered. The product of the ampere input to the motor and the applied voltage is the volt-ampere input. Volt amperes multiplied by the motor power factor is the watt input to the motor.

"A standard high grade general purpose ¾-hp., 115-volt uncorrected motor will draw 10.8 amperes at 62% power factor, representing an input of 1,242 volt-amperes or 1.242 kva. The metered energy input will be 770 watts or .77 kilowatts. The quotient of 770 divided by 1,242 is .62, this being the motor power factor. Table 1 shows pertinent electrical data for standard 115-volt motors of quality.

"Some motors in air conditioners will have poorer characteristics than those in the table, some will have better," he said.

"It should be noted that the full load ampere ratings for motors corrected to 90% power factor are lower than for the next smaller size of uncorrected motor in every case, for the motors shown in the table. In other words, a ¾-hp. corrected motor might impose less load on a circuit than an uncorrected ½-hp. motor.

Improved Power Factor Benefits

"Benefits to the customer from improved power factor are: (1) released circuit capacity, (2) reduced fuse blowing, (3) elimination of the necessity for rewiring for ¾-hp., 115-volt units, and (4) lower voltage drop and losses in house wiring. Manufacturers, distributors, and dealers benefit through increased sales resulting from fewer and less extensive wiring changes, fewer service calls, and better customer relations," Baugh explained.

"Prior to the advent of motor-operated devices for domestic use, the power factor of domestic load was 100%, that is, every ampere required by customers' appliances was metered. With the gradual introduction of vacuum cleaners, refrigerators, fans, washing machines, and other motor driven appliances, a trend toward lower power factors was initiated.

"However, the motors in these appliances are small, hours of use per week are low, and there is a great diversity in time of use by customers, with the result that even today the effect of appliances of this character on the power factor of a circuit or of a power supply system is not serious.

Air Conditioners Offer Serious Problem

"Introduction of motor-operated air conditioners for domestic use, particularly small room type units with single phase motors, occasioned the first really serious reduction in the power factor of domestic circuits. Motors in air conditioners are large as compared with motors in other domestic devices, hours of use per week are high, and there is essentially no diversity in time of use during a hot spell.

"Table 2 demonstrates the effect of air conditioners on the power factor of domestic feeders. Feeders A and B peak in the winter with no air conditioner load in operation; feeders C and D peak in the summer and have a high degree of saturation of air conditioners.

"As noted earlier, low load power factor results largely from the necessity for supplying the exciting current for the magnetic

(Continued on next page)

The Carnegie Endowment International Center

United Nations Plaza, New York. **Architects:** Harrison & Abramovitz; **Mechanical Engineers:** Syska & Hennessy; **General Contractors:** Caldwell-Wingate Co.; **Heating & Air Conditioning Contractors:** J. L. Murphy, Inc.

How to air condition an 11-story building *that's only 10 stories tall*

THERE is a trend toward lower ceiling heights, to reduce building costs and make rooms look "friendlier." Following this movement, the Carnegie Endowment International Center has low 9-foot ceilings. As a result the 11-story building was fitted in a normal 10-story building shell.

Low ceilings, however, create air conditioning problems. They cannot be furred down to hide the ductwork necessary for most air conditioning systems. *But, the American-Standard Remotaire system does not require bulky ducts.* One pipe carries chilled or hot water from a centrally located plant to each individually controlled Remotaire unit in the building.

Remotaire units condition the air through 4-row coils, and circulate it through the room. They filter and blend room air and fresh air.

Remotaire units come in 200, 400 and 600 cfm capacities. They can be recessed in the wall, either completely or partially, or left free-standing. Handsome steel jackets can be painted if desired.

Installation and maintenance of Remotaire units is easy. Plenty of wrench space is provided to make pipe connections. Motor and fan assemblies can be removed as a unit. Coils can be reversed for left or right-hand connection.

For more information about Remotaire send for descriptive literature . . . Form 417. **American Radiator & Standard Sanitary Corp.**, Dept. AN-84, Pittsburgh 30, Pa.

AMERICAN-Standard
WATER HEATING-COOLING SYSTEMS

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

Table 2—Effect of Air Conditioners on Power Factor of Domestic Feeders

Feeder No.	Date	Time	Kw.	KVA	Uncorrected Power Factor	Cost to Correct to 95% P.F.
A	Dec., 1953	6:00 p.m.	1,024	1,072	95.8%	....
B	Dec., 1953	6:30 p.m.	1,920	2,060	93.0%	$ 1,150.00
C	Aug., 1953	6:30 p.m.	4,270	5,480	78.0%	$14,000.00
D	July, 1953	6:30 p.m.	4,880	6,730	72.5%	$21,000.00

Utilities Try To Better Power Factor--

(Continued from preceding page)

structure of customers' motors. Unless corrected, it is responsible for excessive voltage drop, high losses, and overloading of generators, transformers, transmission and distribution circuits, and other central station apparatus.

"Over-all power system economic considerations require that distribution feeders operate at power factors ranging from values on the order of 90% to as high as 95%, and it is evident that a utility must take steps to improve the power factor of feeders supplying large amounts of low power factor air conditioner load. The final column in the table shows costs to the utility for correcting the power factor of Feeders B, C, and D to 95%.

"It was stated earlier that a hot spell occasioned a 500,000 kilowatt increase in demand in 1953 on the Pennsylvania-New Jersey Interconnection. Assuming a not unreasonable value of 300,000 kilowatts as the demand of air conditioners with small, low power factor, single phase motors, it would cost the utility concerned on the order of $1,000,000 to correct circuit power factors to the values that would have existed if motor power factors were 90% instead of an assumed average of 70%.

Install Capacitors

"Utilities could not have handled increases in air conditioning load in the past two or three years without installing capacitors to correct the conditions created by low load power factor. One company with a peak load of only 88,400 kilowatts has in service 71,100 kvar of capacitors. Their system power factor is 96% and would have been only 68% without correction.

"Fourteen companies in the southwest, where air conditioning is extremely active, report serious difficulties due to rapid growth in this type of load. All 14 have installed capacitors on their primary feeders, 13 of them have installed large banks of capacitors in substations, and 11 of them have found it necessary to install capacitors on secondary mains," Baugh revealed.

"It is true that utilities can provide the necessary power factor correction on their circuits. Air conditioners are a seasonal load, and also many of them do not operate at night in some climates or during cool spells that alternate with hot spells. Power factor correction on a circuit results in a voltage rise that is independent of the load on the circuit. At peak load this voltage rise is naturally proportioned to compensate for the voltage drop due to the watt component of the load.

Disconnecting Capacitors

"When the load power factor is unduly low, a large amount of correction is required, and overvoltages at light load would result. To remedy this condition, utilities find it necessary to provide devices to disconnect the capacitors used for power factor correction during light load periods when air conditioners are not in operation. This increases the cost of correction by 22 to 50%.

"If the necessary correction is furnished by the use of power factor corrected motors or by separate built-in capacitors, it is automatically removed when conditioners are switched off, at no extra cost. Voltage conditions will be more stable and operating problems less complicated if correction is provided in this manner.

"Customers' wiring will not be benefited if utilities install the required power factor correction, but will benefit, as discussed earlier, if correction is incorporated in air conditioning units," Baugh said.

"It should be noted here that the effect on circuit power factor of low power factor single phase motors is independent of motor voltage. The use of 230-volt motors would correct unduly high ampere loading of customers' circuits and, to some extent, the adverse effect of high starting currents, but would not improve power factors.

Utilities' Regulatory Rights

"The right of utilities, with the approval of regulatory commissions, to regulate the load power factor of devices connected to their lines is recognized. Service rules of many utilities contain clauses which permit them to refuse service to loads with unduly low power factors, and regulations pertaining to fluorescent lamp installations are illustrative of this point.

"Industrial rate schedules have recognized the effect of low power factor on the cost to serve; many of them contain clauses which increase billings if power factors are below stated values, and offer bonuses for higher power factors.

"On systems having winter peaks, loads generally rise rapidly to peak values in the early evening and fall off equally rapidly. On systems with summer peaks occasioned by air conditioning load, or, as in the case of the Pacific Gas and Electric Co., by a combination of air conditioning and irrigation load, loads are at or near peak values throughout most of the daylight hours.

"The combination of high ambient temperatures and high daily load factor limits the capability of generators, transmission and distribution lines, transformers, voltage regulators, and associated equipment to 75% or less of their winter capability. On top of this, steam generating capacity sometimes is further reduced by high condensing water temperatures.

Summer Loads Approaching Winter Peaks

"As air conditioning load grows, companies will find that their winter peaks are of approximately the same magnitude as their summer peaks, a situation that might result in difficulty in scheduling equipment out of service for overhaul. Two or three months which formerly constituted a summertime light load period will be less readily available for overhaul.

"Problems of this nature bear directly on the cost to serve, and many utilities have been or will be called upon to face them squarely," Baugh said.

"As an offset to the low annual load factor of air conditioning, it has been and will be necessary to look for the accelerated addition of compensating winter loads. Incorporation of space heating in air conditioner design, the reversible cycle heat pump, or direct promotion of space heating and additional lighting in areas where air conditioning equipment is in use in significant quantity are natural answers which should appeal to many utilities. It is possible that space heating should be inseparably linked with air conditioning.

"It is generally conceded that year-round air conditioning can be readily achieved electrically by the reversible cycle heat pump. Its wide acceptance would undoubtedly bring additional problems, but it is automatically self-compensating as far as annual load factor is concerned.

"Anything that the air conditioning industry can do to improve the efficiency, lower the initial cost, improve the operating reliability, and reduce the operating and maintenance costs of heat pumps will be a boon to the entire electrical industry. It is a certainty that utilities will cooperate fully in the solution of any electrical supply problems that arise," he predicted.

"It will probably be several years before the heat pump has been developed to the point where it will receive general public acceptance. In the meantime, and possibly even thereafter, direct promotion of resistance type space heating is indicated. By itself, it has many of the disadvantages of air conditioning load except that it operates at unity power factor and will peak in the winter when the same facilities that are needed to handle summer peaks can carry from one-third to one-half more load due to ambient temperatures.

"The electrical industry is reviewing the desirability of adopting higher utilization voltages in this country than those now in use," Baugh said.

"A number of 277/480-volt installations on commercial and industrial premises are in operation,

and there is fairly general agreement that this is an appropriate service voltage for these types of loads.

"A segment of the industry wishes to consider the possibility of converting 120-volt, two-wire light and receptacle circuits in single family dwellings and small walk-up apartment houses or flats to 240 volts. This would be an acceptable answer to problems associated with the use of heavy duty appliances such as air conditioners and laundry dryers in homes now wired with 120-volt circuits.

Expense of Conversion

"The expense connected with replacing or rebuilding small appliances is a major deterrent. Also, there is some doubt regarding the suitability of wall switches, plug receptacles, floor and table lamps, etc., for 240-volt service. Turnover in house or apartment occupancy presents further obstacles.

"In large apartment houses, 227/480-volt service would be suitable and desirable for elevator motors, central air conditioners, fluorescent lighting, etc., but apartment occupants would want lighting and receptacle circuits for 120-volt lamps and appliances, or for 240-volt equipment if that voltage were adopted for general domestic use.

"For the moment the only practicable answer, and this applies primarily to newly constructed houses, is to continue 120/240-volt service, but to wire for two groups of receptacle circuits; one group of circuits to provide 120 volts for small appliances and portable lamps, a second group of circuits to provide 240 volts for laundry machines, dryers, air conditioners, space heaters, and similar heavy duty appliances.

"This procedure would solve air conditioner problems as far as new houses are concerned, and, in the long run, would be of tremendous benefit to the entire industry."

Summarizing, Baugh made the following 11 points:

"1. ¾-hp. or larger room air conditioners constitute a high percentage of the total units sold.

"2. Several 1954 models of 115-volt room air conditioners provide simultaneous starting of fan and

(Concluded on next page)

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a factor
1½" O.D. accumulator tank with ends spun to ⅞" I.D.
Both ends of this return bend are samples of H & H expanding.
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SEAMLESS TUBING
TUBULAR PARTS

Air Conditioning Power Problems--

(Concluded from preceding page)

compressor motors, which results in total starting currents in excess of 46 amperes. This can be corrected by installing controls which provide for sequential rather than simultaneous starting.

"3. Starting current limitations for automatically started motors are much more stringent than for manually started motors. One-half and ¾-hp. motors of normal design will not meet the requirements for automatic starting. The effect of this is to place severe restrictions on the use of thermostatic control of air conditioners on 120-volt circuits.

"4. Unless the power factor of ¾-hp., 115-volt air conditioners is improved by equipping them with capacitor-run motors or with separate built-in capacitor units, running currents will either exceed National Electric Code limits for 15-ampere circuits or will be so high that little or no additional load can be carried by the branch circuits supplying the units.

"5. Power factor correction benefits the customer through improved voltage, lower losses, fewer fuse blowings, and better results.

"6. It will benefit manufacturers, dealers, and distributors through increased sales by requiring fewer and less extensive wiring changes, fewer service calls, reduced possibility of claims and damage suits, and an enhanced reputation for furnishing a reliable, trouble-free product.

"7. It will benefit utilities and their entire clientele by placing the cost of power factor correction where it belongs. Domestic rates are based on an historically high power factor load. If utilities must spend unduly large sums of money for proper power factor correction on circuits supplying domestic load, this expense eventually would be reflected in rate schedules.

"8. Air conditioners, contrasted to all domestic appliances other than space heaters, operate with a very high demand factor, that is, with low diversity. This results in substantial increases in peak loads at a time of the year when the utility system capabilities are at their lowest, due to high ambient temperatures. This factor alone constitutes a serious supply problem.

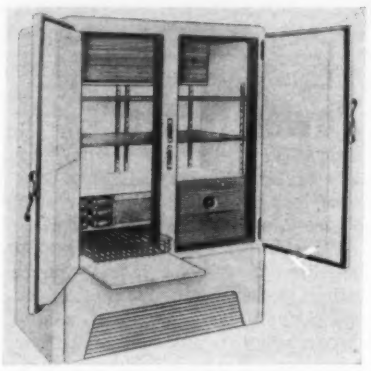
"9. Air conditioners operate at a low annual load factor. Rapid growth in the use of this device has already resulted in some areas in the transfer of system peaks from the winter months to the summer months. With reduced capability due to high ambient temperatures at the time of system peak, utilities must seek for additional winter loads to compensate for the low annual load factor of air conditioners. The air conditioning industry can assist in this by promoting the sale of units which incorporate space heating, and by furthering the development of reverse cycle heat pumps.

"10. Regulatory commissions have tacitly conceded that utilities have the right to formulate regulations, permitting them to refuse service to types of load that are detrimental to service to other customers. Some utilities have concluded that they should extend their present service rules governing service to low power factor loads to cover air conditioners, or should incorporate provisions of this character in their regulations. At least one utility proposes to prohibit the installation of ¾-hp. units on 120-volt circuits.

"11. Consensus of utilities is to the effect that the best interests of all concerned will be served if the power factor of room air conditioners is corrected to at least 90% as soon as possible. It should be noted here that the power factor of the entire unit, and not just the compressor motor, should be considered. How this is to be done, on what basis power factors are to be measured, and other details are matters for further consideration. We believe that adequate power factor correction will benefit the air conditioning industry, the user, and the serving agencies, and that the best way to achieve desired results is by voluntary cooperation rather than regulation.

What's New

When requesting further information on new products, please use "Information Center" form.



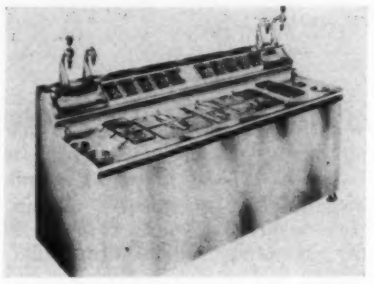
19-Cu. Ft. Refrigerator by McCray Has Twin Doors

——KEY NO. D-811——

KENDALLVILLE, Ind.—A dual temperature, twin door, upright refrigerator, for commercial and home use, has recently been announced by the McCray Refrigerator Co., Inc. here.

The McCray model RI-20 has a net usable space of 19.27 cu. ft. with 14.42 cu. ft. of this carrying a normal temperature and 4.85 cu. ft. for freezer storage, which includes an ice cube compartment.

The normal temperature upper section of the box is refrigerated by a gravity type coil, with adjustable temperature control, which defrosts automatically.



The unit, known as the "Challenger BT84 Bobtail," features two draft stations and two separate sets of syrup pumps.

A large refrigerated storage compartment (approximately 15-cu. ft. capacity) for bottled and packaged goods is likewise accessible through large lids (15 in. by 15 in.) on either side.

Fischman Introduces Dual-Service Bobtail

——KEY NO. D-812——

PHILADELPHIA—A dual-service 84-in. bobtail designed for stores requiring fountain facilities to handle larger than normal service during peak hours is being offered by the Fischman Co. here.

Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO. BROOKLYN 38 • N. Y.
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NOW! YOU CAN SELL EVERY ICE USER
with America's Only Complete Line of
AUTOMATIC ICE MACHINES!
Boulevarde RESTAURANT
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Here's why as a Scotsman dealer you are guaranteed more profit:
Super Cubers
Produce 100 to 500 pounds daily. Exclusive "Cycle-Matic" control. Guarantees purest, finest ice. Dependable performance.
EXCLUSIVE NEW "CYCLE-MATIC" CONTROL
Automatically compensates for changes in room temperature, water temperature and the water supply pressure. Perfect cubes time after time, big, solid, round, crystal clear.
Model SC-500
Model SC-100
Model SC-200
Super Flakers
Produce 350 to 1050 pounds daily. Efficient, dependable. No choppers, grinders or knives. Simplest flaking mechanism made.
Model SF-3WS
Model SF-1WSC
Model SF-2WSC
Model SF-1C
Model SF-2C
Model SF-3
Write for the name of your nearest Scotsman distributor.
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America's Most Complete Line
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AMERICAN GAS MACHINE COMPANY
Division of
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Information Center

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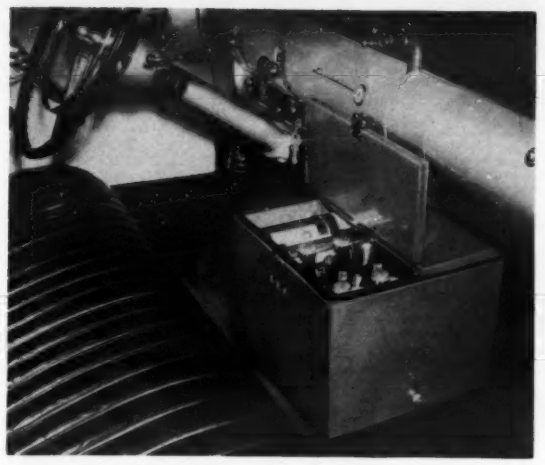
What's New (Con't)

Refrigerator Specially Designed for Use In Auto



"REFRIGETTE," mechanical refrigerator designed especially for use in automobiles, can be installed in front or back seat or in the trunk. Unit operates off the car's air conditioning system.

——KEY NO. D-815——

FORT WORTH, Texas—What is said to be the first mechanical refrigerator especially designed for use in automobiles has been introduced by A.R.A. Mfg. Co. here, producer of automotive air conditioners.

The new refrigerator, called the "Refrigette," is a compact unit 13¼ in. high, 11¾ in. wide, and 10 in. from front to back. It has a capacity of 960 cu. in. and will hold 18 bottled drinks, two dozen 12-oz. cans, or an equivalent amount of food, according to the company.

The refrigerator can be installed just below and in front of the instrument panel, on the floor behind the front seat, or in the trunk compartment.

Refrigette operates off the car's air conditioning system and can be installed in any car, old or new, that is equipped with refrigerated air conditioning. Installation takes about an hour, and the unit can be removed and transferred to another automobile when the owner trades or sells his car, it was pointed out.

The refrigerator, which opens from the top, is made of zinc-coated metal with a grey baked enamel finish, and is insulated with a ½-in. layer of Celotex. A drain located in the bottom of the case facilitates cleaning.

The cooling system consists of 12½ ft. of ⅜-in. copper coil, covered by an expanded metal grille and connected to the air conditioning system of the car. It has a ½-ton automatic expansion valve.

The new refrigerator, which is being manufactured in A.R.A.'s Fort Worth plant, is already in production and will be available immediately through automobile dealers and A.R.A. installation service centers. It will retail for $49.95, plus the cost of installation.

Until a sufficient factory inventory is built up, priority will be given to dealer orders accompanied by orders for A.R.A. air conditioners, the company said.

'Pollen Ex 99' Removes 99.99% of Pollen from Air

——KEY NO. D-816——

CHICAGO—A room air cleaner that removes 99.99% of ragweed pollen from the air in a 20 by 12 by 9-ft. room in 10 minutes has been introduced recently by Associated Mills here, a hospital equipment manufacturer.

Called the "Pollen Ex 99," the electrically operated unit is available in portable and window models at $69.95 and $89.95, respectively. A "do-it-yourself" installation kit is available at $10 extra for the window model.

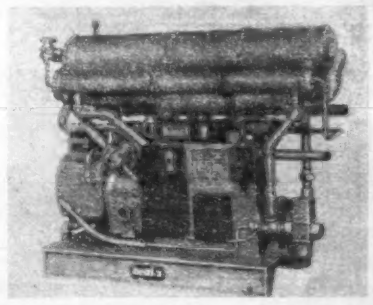
Heart of the Pollen Ex 99 is a pair of turbine-type fans that draw 245 c.f.m. of air through a chemically compounded filter made exclusively for this unit, the company said. It claims that clinical tests by research laboratories have proved that the unit removes 99.99% of the pollen in a room under actual use conditions.

The unit measures 20 in. wide by 14 in. high by 10 in. deep and weighs 26 lbs. It operates on 110-120 volts a.c., 60 cycles, 90 watts. Finished in beige and green, it is equipped with a four-position switch for three-speed operation.

The manufacturer said the portable unit operates from a table or stand near a window which can be opened after the unit has cleared pollen from the air.

Filters should be replaced every three months during normal use and between 30 and 45 days during the height of the ragweed season.

The company emphasizes that the Pollen Ex 99 is a completely different type of unit than the floor model Pollen EX 1500. It also points out the Pollen Ex is not an air conditioner.



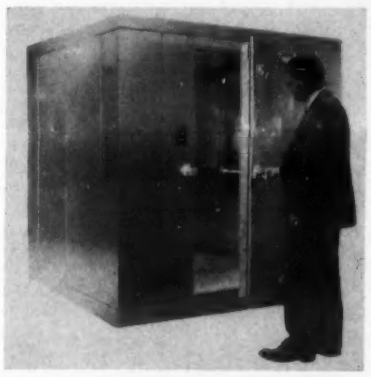
Heat-X Package Chillers Range from 2-15 Hp.

——KEY NO. D-818——

BREWSTER, N. Y.—The Heat-X-Changer Co. has introduced a new line of package chillers for chilled water air conditioning systems, drinking water or beverage cooling applications, and industrial water cooling uses.

Available in models from 2 hp. through 15 hp., the new "PC" units are furnished completely wired, charged with "Freon," and factory tested, requiring only power and water connections for operation, the company said.

Condensers, chillers, and heat exchangers of the new units are of patented "Heat-X inner-fin" construction, permitting greater capacity with less bulk. Circulating pumps are of the non-overloading type with mechanical seals to eliminate danger of leaks. Hermetic compressors are standard on all units.



Pilot Light, Outlet on New La Crosse Walk-In Line

——KEY NO. D-817——

LA CROSSE, Wis.—La Crosse Cooler Co. has recently announced an enlarged and improved line of metal walk-in coolers featuring a pilot light and outlet on all models without additional charge.

La Crosse stresses that it has a model for every type of storage problem with a complete range of prices from which to choose.

The dairy or beer walk-ins are available either painted or unpainted. The unpainted models feature the same Armco paintgrip exterior as regular La Crosse models and can be painted according to the customers' own color schemes.

"Complete line, the perfect set-up for every need," says Clyde L. Copp (left), Typhoon dealer in Tulsa, shown with one of his customers.

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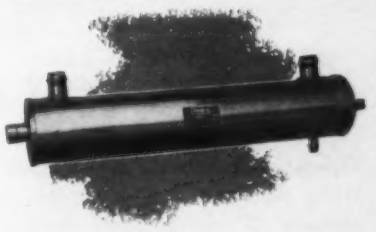
...with HEAT-X INNER FIN

HEAT-X *Inner-Fin* Chillers . . . compact, high capacity direct expansion evaporators for use in chilled water air conditioning systems and on other liquid cooling applications.

Compare the size! These drawings . . . made to scale . . . illustrate the space-saving possible with these new Chillers. Patented Heat-X *Inner-Fin* construction makes the difference. Copper inner-fins in the refrigerant passages greatly increase heat transfer efficiency . . . permit smaller size and lower cost.

Water passages of Heat-X Chillers are of non-ferrous construction to eliminate any possibility of corrosion. Because they are single pass, there is no oil trapping problem.

Capacities of Heat-X *Inner-Fin* Chillers cover the range from 3 to 35 tons. Selection of water baffle spacings is available to meet a broad range of water pressure drop requirements. Two inch thick rock cork insulation with sheet metal cover is available on all models.



Request free descriptive bulletins No. 1037 and 1038.

HEAT-X-CHANGER CO., INC.

BREWSTER • NEW YORK

Refrigeration Problems
and their solution
by Paul Reed
For Service and Installation Engineers

Paul Reed

Manual and Automatic Purgers (2)

All purgers, both manual and automatic, chill the hot gas from the top of the condenser or receiver, or both. When the hot gas is chilled, some of it condenses to a liquid, leaving above it the saturated vapor at a much lower density than that of the hot gas. With the saturated refrigerant vapor is mixed the non-condensible gas which is then more easily purged from the system.

WATER-COOLED MANUAL PURGERS

One of the most simple manual purgers uses water to chill the hot gas and refrigerant vapor mixture. Fig. 1 shows the purger chamber with the water coil in it, and the valves and connections for the water and drain and for the refrigerant vapor and hot-gas mixture.

In operation, the machine is turned off and the water valve is opened and cool water allowed to flow through the water coil for about 10 minutes. During this time the hot-gas valve is open and the liquid valve is closed, so the mixture of refrigerant vapor and non-condensible gas in the condenser flows into the chamber of the purger. There the refrigerant gas is condensed to a liquid, with the non-condensible gas and some refrigerant vapor above it.

The hot-gas valve is then closed and the liquid valve opened. Liquid from the liquid line flows into the purger chamber. The purge valve is then cracked and the machine started. The liquid level in the purger rises, pushing out the non-condensible gas and some refrigerant vapor.

When liquid starts to pass out of the purge valve, it is an indication that the purger chamber is full of liquid and that all of the vapor and non-condensible gas has been purged, so that the water valve, purge valve, and liquid valve are closed and the hot-gas valve is opened.

One purging will probably not remove all of the non-condensibles from the system. However, non-condensibles tend to collect in the condenser and receiver, so the machine should be operated a few hours to give non-condensibles time to again collect in the condenser, and the above purging procedure repeated.

If the suction side of the system operates on a vacuum, and there is a leak on the low-pressure side, it may be necessary to purge regularly until the leak is found and repaired. Allowing a leak to remain is not good practice on "Freon" systems, but is often permitted on large ammonia systems.

Water-cooled purgers are most effective on air-cooled machines and if cool supply water is available. Due to the necessity of running water and drain lines for them, water-cooled purgers are not widely used.

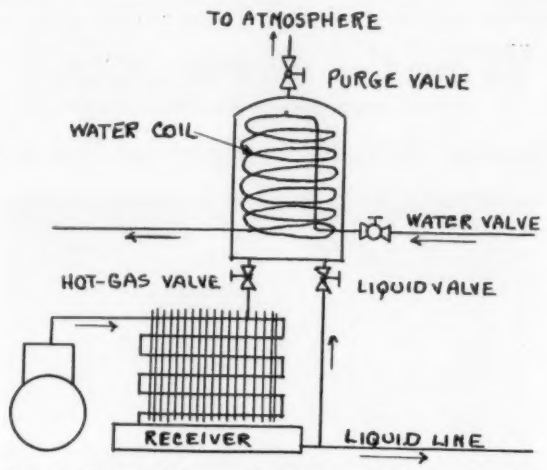


FIG. 1—Water-cooled manual purger connected to air-cooled condensing unit.

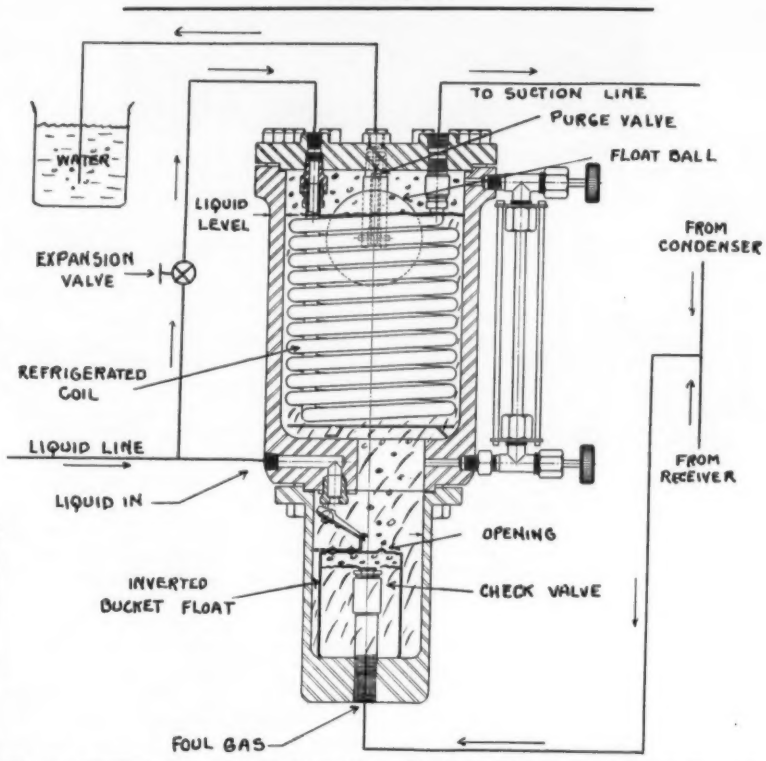


FIG. 2—Armstrong purger connected for high differential pressure between liquid line and liquid in purger, for intermittent purging on systems under 50 tons.
(Courtesy Armstrong Machine Works)

REFRIGERANT-COOLED PURGERS

A much more effective purger uses a refrigerant-cooled coil instead of the water coil. The refrigerant-cooled coil can be operated at a much lower temperature and will therefore condense out more refrigerant vapor and to a much lower density. Less refrigerant is lost in purging and a better separation is effected between the refrigerant vapor and the non-condensible gas.

Instead of a water-cooled coil as shown in Fig. 1, a refrigerant-cooled coil can be used. It may be fed refrigerant by means of a hand expansion valve (if it is closely watched and readjusted as required) or a thermostatic expansion valve. An automatic expansion can be used if the suction and head pressures on the system are fairly constant. A capillary tube or high-side float valve would not be suitable, as the refrigerated coil of the purger operates as an evaporator in multiple with other evaporators on the system.

In one design of refrigerant-cooled purger similar in operation to that shown in Fig. 1, the coil is fed refrigerant by an expansion valve and its outlet is connected to the suction line of the system. It is converted to automatic purging by means of a special thermostatically-operated valve, with its bulb down in the purger. This replaces the hand-purge valve and purges off the non-condensible gases automatically, but closes when no non-condensibles are left in the purger.

Fig. 2 illustrates one design of refrigerant-cooled purger that is widely used on ammonia equipment. The mixture of hot gas and non-condensible gas from the top of the condenser and/or receiver enters the bottom of the purger, at point marked Foul Gas, through a check valve.

The body of the purger is filled with liquid ammonia up to about the top of the coil as indicated at liquid level. This liquid ammonia enters the purger at point shown as Liquid In. It is controlled by a needle valve operated by a bucket float, open at the bottom. This arrangement may be considered as a "make-up" valve to supply liquid ammonia as needed.

In the top of this bucket float is a small opening. As the foul gas enters under the bucket it tends to gather in the top of the bucket, but escapes in bubbles through the opening and continues to rise through the liquid ammonia in the body of the purger.

Since this liquid ammonia is cold, the ammonia vapor in the foul gas mixture is absorbed by the cold liquid ammonia, so that by the time the gas gets to the liquid level most of the ammonia vapor is absorbed, leaving mostly non-condensible gas which gathers above the liquid level in the top port of the purger body.

As the non-condensible gas continues to gather above the liquid

(Continued on next page)

"It's the best combination we've ever used"

Operating efficiency of refrigerating equipment depends on a number of things—good design, installation skill and quality material. When you come right down to it, it's what *goes on inside* the refrigeration system that counts the most, and that may well be a reflection of the quality and purity of the refrigerant and the oil used in the equipment.

Here are two combinations that are keys to high efficiency and trouble-free operation:

Virginia Refrigerants plus Suniso Oil

"Freon" Refrigerants plus Suniso Oil

Try these combinations on your new and reconditioned jobs and see the call-backs disappear. They are within telephone reach of every service engineer—your wholesaler has these fine-quality products. Or write Refrigeration Division, VIRGINIA SMELTING Co., Dept. 63, West Norfolk, Va.

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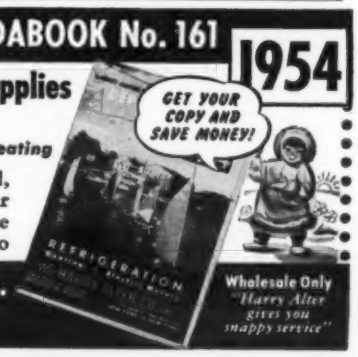

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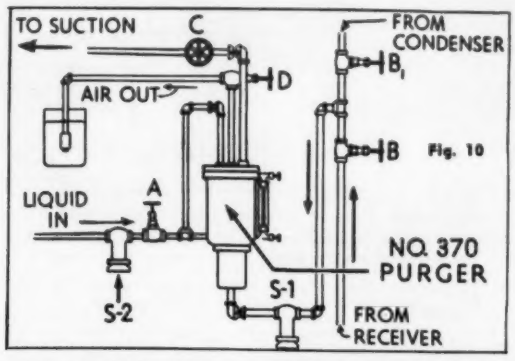
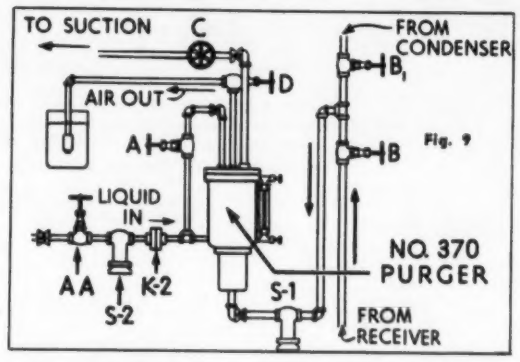


FIG. 3 — Connections for purger as in Fig. 2.

HIGH DIFFERENTIAL or INTERMITTENT PURGING

(Courtesy Armstrong Machine Works)

FIG. 4 — For continuous purging or intermittent purging on large systems. K-2 is differential valve that reduces pressure in liquid line beyond it, about 2 to 6 p.s.i. Thus liquid in purger is at high pressure.



LOW DIFFERENTIAL or CONTINUOUS PURGING

(Courtesy Armstrong Machine Works)

Manual and Automatic Purgers--

(Continued from preceding page)

level, it tends to press downward on the liquid, thus lowering the liquid level. The float ball lowers with the liquid level and opens the purge valve.

The non-condensible gas escapes through the purge line to the atmosphere through a vessel filled with water. This water absorbs the small amount of ammonia vapor left in the non-condensible gas. For refrigerants other than ammonia that are not readily absorbed in water, the purge valve should be piped to a point outside the building.

The liquid ammonia in the body of the purger is kept cold by a refrigerated coil which is, in effect, a small evaporator, fed with refrigerant by an expansion valve, and connected at its outlet end to the main suction line of the system. Liquid refrigerant to the expansion valve and to the "make-up" valve is brought from the main liquid line of the system.

The system above described is suitable for occasional, intermittent purging of systems under 50 tons capacity. If used on larger systems or for continuous or frequent purging, the high pressure drop across the "make-up" valve may result in excessive wear of the valve seat and needle.

For such heavy duty usage a differential valve is placed in the liquid line ahead of both the expansion valve and the "make-up" valve. This is set to reduce the pressure of the liquid to about 2 to 6 p.s.i. above the head pressure on which the system is operating and which is therefore the pressure of the mixture of refrigerant vapor and non-condensible gas entering the bottom of the purger.

Also, the use of a hand expansion valve is suitable only on systems such as ice or cold storage plants that operate continuously with little variation in suction and head pressures.

(To Be Continued)

W. A. Roosevelt Issues New Supplies Catalog

LA CROSSE, Wis. — W. A. Roosevelt Co. has issued a new catalog covering its line of refrigeration and air conditioning equipment and supplies, according to an announcement by the firm.

The 116-page catalog, compiled by William Schaller Co., Inc., Hartford, Conn., is standard 8½-in. by 11½-in. size, contains illustrations and all specifications necessary for ordering by mail, and is cross-indexed for ready reference.

Helpful engineering data is included, and a separate price supplement accompanies the new catalog.

Oldt-Waring Opens Outlet

TAMPA, Fla.—Opening of a new sales and service outlet at 4510 Florida Ave., to serve the Seminole Heights and North Tampa area, has been announced by Oldt-Waring Co., Frigidaire home appliance dealer for Tampa.

John W. Mason Named Detroit Office Manager For Allen-Bradley

MILWAUKEE—John W. Mason, Allen-Bradley sales engineer, has been appointed district manager of the Detroit office of Allen-Bradley Co., electrical control manufacturer here.

John W. Mason

He succeeds J. D. Petersen, former district manager, who has retired from active service.

Mason is a graduate in electrical engineering of West Virginia university, class of 1936. After two years with General Electric Co. in the industrial control engineering department, Mason became apparatus specialist for Raub Supply Co. in Lancaster, Pa.

He was called to active military service in December 1940 as first lieutenant in the Corps of Engineers. He left the service five years later as a lieutenant colonel.

Of this span of 5 years, one and one half years were spent in the office of Undersecretary of War in Washington, D. C., and three and one half years in Overseas Supply Div. at the New York Port of Embarkation and the San Francisco Port of Embarkation.

From 1946 to 1951 Mason returned to Raub Supply as supply sales manager. In 1951 he was again called to military duty to head up the Engineer Design Section for U. S. Army Construction in France.

After his discharge in December 1952 he became affiliated with the Detroit office of Allen-Bradley as sales engineer.

Walter To Work on Special Assignments for Wolverine

DETROIT—D. W. Blend, vice president and general manager of Wolverine Tube, Div. of Calumet & Hecla, Inc., has announced the appointment of Edwin C. Walter to work on special assignments under R. M. Frink, who is director of operations.

Walter recently resigned as vice president and general manager of the Viking Copper Tube Co. in Cleveland. He was co-founder of that company in 1948. For 11 years prior to that, he was was Chase Brass & Copper Co. in Cleveland where his experience was in technical engineering and production.

Walter is 38 years of age, and a graduate of Case Institute of Technology with a B.S. degree in metallurgy. After a four-month indoctrination program, he will be located at the company's offices in Detroit.

Permatex Establishes New Sealant Division

BROOKLYN—Establishment of a new research-consulting division to work directly with manufacturers and industrial users in the piping, plumbing, appliance, and air conditioning fields on sealing problems was announced here by Permatex Co., Inc., producer of chemical sealing compounds.

The new division will be headed by Wallace M. Langton and A. J. Bevalac, under direction of H. J. Enders, Permatex vice president in charge of sales.

It has facilities and laboratory equipment for development and testing of all types of chemical sealants.

Flexonics Promotes Wilson, Keipper to Sales Positions

MAYWOOD, Ill. — Flexonics Corp., manufacturer of flexible metal hose, expansion joints, and metallic bellows, announces two advancements in its headquarters sales organization here.

Harvey Wilson, office sales supervisor of the Expansion Joints Div., becomes a field sales engineer. Walter Keipper of the office sales staff is being promoted to the position formerly held by Wilson. Thomas K. Wells, general sales manager, made the announcements.

Kooler-Kote Developed For Cooling Towers

FRESNO, Calif.—A new rust stopping compound designed particularly for water-cooling towers and evaporative coolers has been introduced nationally by Petroleum Chemicals, Inc. here.

W. C. Bradshaw, president of the company, says that "Kooler-Kote," as the compound is called, does not dry hard but retains its original pliable consistency. Thus, he says, it will not crack, check, peel, or flake off. It never emulsifies in water.

A low temperature test made by Twining Laboratories here for the applicability of the coating for refrigerating pipes and coils showed no damage to the coating after normal thawing, Bradford declared.

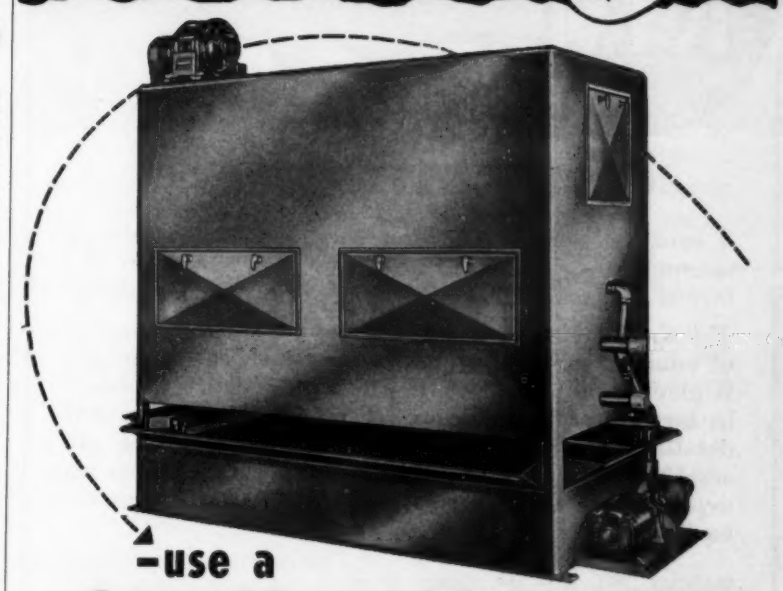
The Twining insulation examination reports Kooler-Kote's thermal conductivity, B.t.u. per hour, per sq. ft., per F. per in. 32° F. to be 1.20.

Percentage decrease in heat transfer to bare iron pipe for 1/32 in. coating was 9.4.

Granted Charter

LAKE CHARLES, La. — Lake Charles Air Conditioning, Inc. has been granted charter of incorporation listing capital stock of $25,000.

When water is a *Headache...*



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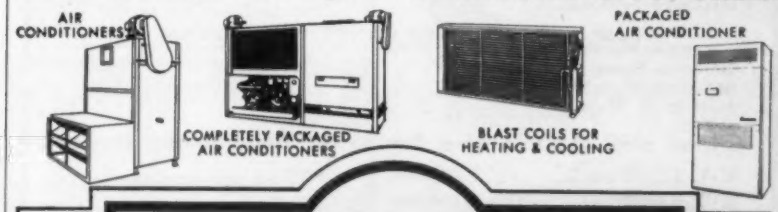

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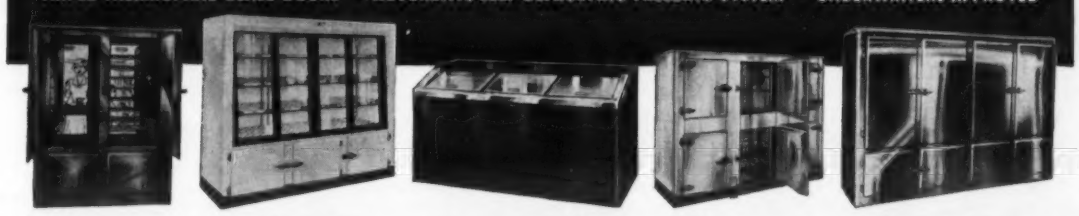

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Theory and Practice of Heat Pumps

Part 4 — Electrical Control Systems

With interest in heat pump air conditioning systems continuing to mount, the NEWS has been presenting a concise explanation of the principles involved in such systems, in a series of articles by K. D. Cunningham. This is the concluding article in the series.

This series of articles has emphasized the "water-to-water" type heat pump, as the author has been concerned primarily with the development of this type system.

By K. D. Cunningham, Acme Industries, Inc.

As a safety precaution, Flow-Temp heat pumps are internally wired at the factory so the compressor will not start unless the circulating pump motor is energized. They are also equipped with a full complement of controls which would have to be supplied in the field for any "built-up" system, to assure satisfactory operation.

Units are equipped with motor starters for the circulating pump and compressor, fuses for the pump circuit, hot and cold water controls, dual compressor high-low pressure control, refrigerant solenoid valves, and a motorized water regulating valve operated by a modulating refrigerant pressure control. Dual compressor units are equipped with a two-stage water temperature control to sequence the compressor starting.

OPERATING SEQUENCE OF CONTROLS

When the thermostat calls for heating or cooling it energizes the pump starter, thereby starting the circulating pump. Simultaneously the contacts made in the pump starter will actuate the motorized valve, and it will start to open. When the motorized valve is half open, the end switch on the valve motor closes, energizing the compressor starters.

At this point the compressors will start and the refrigerant solenoid valve will open because it has been factory wired to the compressor starter. The Flow-Temp unit will continue to run until the thermostat is satisfied, or until the desired water temperature is reached.

WATER TEMPERATURE MAINTAINED

After the desired water temperature has been reached the water temperature limit controls will cycle the compressor on and off by making and breaking the holding circuit to the compressor starters, thereby maintaining the desired water temperature.

Setting of the water temperature limit controls at the factory prevents the rapid cycling of the compressor during light load operations. The circulating pump continues to run until the heating or cooling requirements of the building are satisfied.

During the heating cycle the motorized valve will close when the compressors are stopped by the hot water limit control which shuts off the flow of heat source water.

During the cooling cycle the motorized valve will remain open when the compressors are stopped by the cold water limit control, permitting the continuous flow of chilled water to the conditioned area.

CONTROL OF HEATING AND AIR CONDITIONING CIRCUITS

There are many types of electrical controls systems that may be used with the Acme Flow-Temp heat pump, depending upon the design of the heating and air conditioning system in the building. As a result of this situation, this discussion must be limited to basic temperature controls for certain types of distribution systems. Your temperature control engineer will be able to suggest more elaborate systems.

SINGLE ZONE TEMPERATURE CONTROL

A single zone temperature control system, to operate remote room conditioners or central air handling unit, is shown in Fig. 1. In a system of this type, which may be entirely adequate for a modest residence or small commercial building, a master thermostat is used to cycle the heat pump and the room conditioners or central air handling unit at the same time.

MULTI-ZONE TEMPERATURE CONTROL

In this system, shown in Fig. 2, a room thermostat is located in each zone to cycle the room conditioner or central air handling unit for that zone. Any zone thermostat will start the heat pump by means of a zone relay.

MANUAL OPERATION

The manual control system shown in Fig. 3 may be highly desirable in multi-room conditioner installations such as hotels and motels. This system permits continuous circulating pump operation when the manual switch is closed. The water limit control on the heat pump will cycle the compressor maintaining the required recirculating water temperatures.

The individual room conditioners can then be controlled by individual thermostats as shown in Fig. 3 or by manual switches in each room.

RADIANT PANEL HEATING

Because of the thermal lag encountered in most radiant panel heating systems an outdoor-indoor control of some type is recommended. There are various satisfactory ways to control systems of this type, and information should be obtained from your control engineer.

INTERMITTENT PUMP OPERATION

In radiant panel heating the outdoor-indoor temperature control may be connected to the unit pump starter to cycle the heat pump, thereby maintaining the desired water temperature in the panels. In this instance, the use of a room thermostat as a high limit control is recommended.

In operation, a system of this type will be started by falling outdoor temperature and stopped by the room thermostat. Fig. 4 shows a schematic control hookup.

CONTINUOUS PUMP OPERATION

In this system, diagrammed in Fig. 5, a manual off-on switch is used to operate the circulating pump during the heating season and the outdoor-indoor temperature control cycles the compressor on and off to maintain required water temperature in the panels. Again the use of a room thermostat as a high limit control to prevent overheating is recommended.

OUTDOOR WATER SYSTEMS USING DOMESTIC WATER

Most domestic water systems use a pressure type water tank. With this type of system the water pump is operated by a pressure control. When using the Flow-Temp unit with the existing domestic water system, the water pump pressure control should be adjusted for a higher cut-out pressure than normally used to prevent short cycling of the pump.

SEPARATE WATER SYSTEM

Where a separate water pump is used to supply source water, as shown in Fig. 6, it is seldom necessary to have a pressure tank. In this type of installation the water pump is cycled on and off simultaneously with the Flow-Temp unit.

This can be done by interconnecting the external control of the Flow-Temp heat pump with the water pump motor starter.

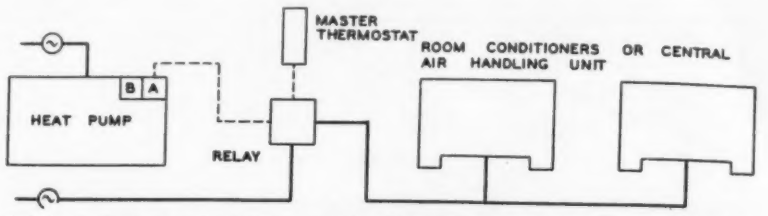

FIG. 1. A single zone temperature control system to operate remote room conditioners or central air handling unit. A master thermostat is used to cycle the heat pump and the conditioners at the same time.

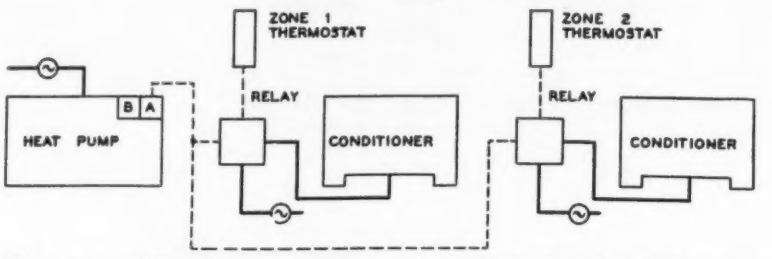

FIG. 2. In a multi-zone temperature control system, a room thermostat is located in each zone to cycle the room conditioner or central air handling unit for that zone. Any zone thermostat will start the heat pump.

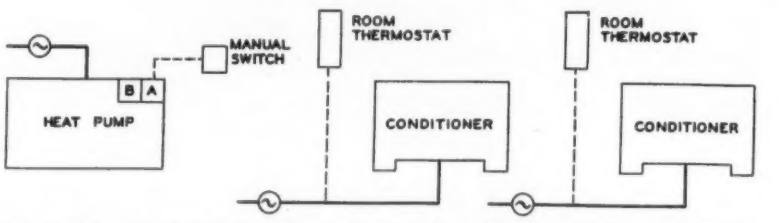

FIG. 3. This type of manual control system may be desirable in multi-room installations such as hotels and motels. It permits continuous circulating pump operation when the manual switch is closed. Individual room conditioners are then controlled by individual thermostats.

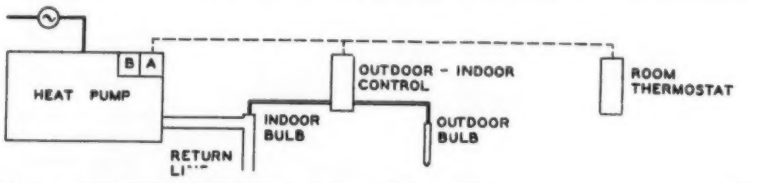

FIG. 4. In radiant panel heating the outdoor-indoor temperature control may be connected to the unit pump starter to cycle the heat pump, thereby maintaining the desired water temperature in the panels. In operation, a system of this type will be started by falling outdoor temperature and stopped by the room thermostat. Drawing shows a schematic control hookup.

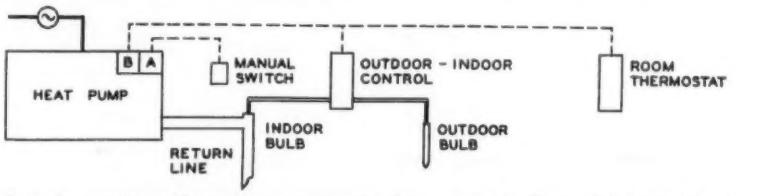

FIG. 5. In a system with continuous pump operation, a manual off-on switch is used to operate the circulating pump during the heating season, and the outdoor-indoor temperature control cycles the compressor on and off. A room thermostat is used as a high limit control.

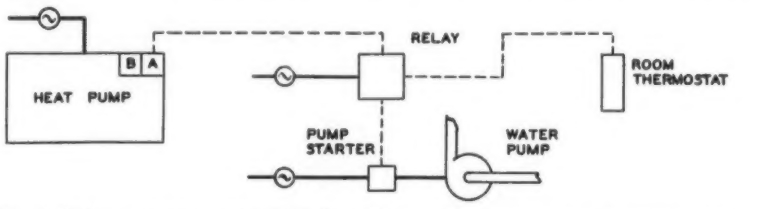

FIG. 6. Where a separate water pump is used to supply source water, the water pump is cycled on and off simultaneously with the Flow-Temp unit.

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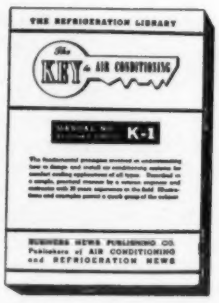
MANUAL NO. K-2—Sheet metal ducts (sizing methods, problems of design); discussion of air cleaning devices; heat transmission coefficients; problems and tables for figuring heat gain; air through cooling coils; selection of cooling coils, expansion valves, compressors, and water cooling coils.

MANUAL NO. K-3—General discussion of heating systems; selection of heating coils (air friction, condensation); description and operation of evaporative condensers; water cooling towers; automatic controls; piping refrigerant, water, and steam; and insulation problems.



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Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices.

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q" or, if numbered, the number will be followed by the letter "Q."

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Galveston District, Corps of Engineers, P.O. Box 1229, Galveston, Texas			
Am Service Club Addition, Foster AFB, Texas. Work to consist of Adding 5,500 sq. ft. of wood frame building to an existing AM service club. This work includes air conditioning, heating, and necessary outside utilities for the addition, and air conditioning and heating for existing AM service club which has floor area of about 5,600 sq. ft.	Job	(ENG-41-243-55-11B)	17 Aug 54
Construction of Post Exchange auditorium, theater and cold storage addition, Laughlin AFB, Del Rio, Texas. Work to consist of the following: PX - construct a one-story wood frame building, approx. 9,600 sq. ft.—concrete floor slab—mechanical ventilation—auditorium-theater—construct a one-story wood frame building—350 seat—approximately 4,512 sq. ft. of floor area—concrete floor slab and air conditioning—cold storage section—construct a one-story wood frame building addition approximately 2,000 sq. ft. to existing building w/connecting utilities.	Job	(ENG-41-243-55-9B)	26 Aug 54
Chicago Quartermaster Depot, Quartermaster Purchasing Div., Chicago, Illinois			
Range, electric. Fed. Spec. W-R-101A.	515 ea.	55-1"Q"	19 Aug 54

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
General Services Administration, Business Service Center, Region 3, 7th and D Sts., S.W., Washington 25, D. C.			
Refrigerators, Kerosene, 6 cu. ft. Spare parts kit containing 12 wicks, 5 tube caps, one chimney, and one complete burner assembly. Servel, Inc. Model 63K, or equal.	2 ea.	(93-00-201-4251)	9 Aug 54

CONTRACTS AWARDED THROUGH JULY 23

Navy Purchasing Office, New York, New York

Services (L & M) to design, fabricate, deliver and install one temperature and humidity chamber.—Job, $63,852.—Hieatt Engineering Co., P.O. Box 349, Burbank, California.

Department of the Navy, Bureau of Ships, Washington, D. C.

Condensing unit, (NM) assembly water cooled ½ ton capacity, 440 volt a.c. (549-849).—14, $59,290.—Carrier Corp., New York, N. Y.

Refrigeration pumps, 7 ea. Fire pumps (549-853), 21 ea., $60,471.—Frederick Iron & Steel, Inc.., Frederick, Maryland.

Ordnance Corps, Redstone Arsenal, Huntsville, Alabama

Box, temperature, conditioning, complete (4 ea., $47,980) as per specification (3 ea., N/C) and modified Tenney drawing PS-119-4 (3 ea., N/C) drawing, operating instructions. (CS-No.7743-54) (CS-No. 1477-54).—Tenney Engineering, Inc., 1090 Springfield Rd., Union, N. J.

San Francisco District, Corps of Engineers, U. S. Army, 180 New Montgomery St., San Francisco, California: (Purchasing Office)

Furnace, warm air, forced, liquid fuel oil burning, Eng-04-203-54-677.—484 ea., $68,863.—Second and H Sts., Petaluma, Calif.

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Norge To Spend $500,000 To Modernize Muskegon Refrigerator Plant

CHICAGO—Plans to spend nearly $500,000 on new refrigerator manufacturing facilities was announced recently by Norge Div. of Borg-Warner Corp.

The company will modernize and expand productive capacity at its Muskegon, Mich. refrigerator plant, Judson S. Sayre, president, said.

The expenditure is the second major expansion program announced by Norge in recent months. Previously, the company reported a $1,600,000 expenditure to increase range and laundry equipment production at Herrin, Ill., and Effingham, Ill. plants.

Distributor Buys Locker Plant, Doubles Food Sales

RICHMOND, Va.—A freezer distributor here who purchased a locker plant in March to supply the firm's own food plan dealers has already doubled the plant's food sales.

Old Dominion Distributors, Inc., which acquired the Magnolia Locker Plant for the purpose of supplying meat and frozen foods to food plan dealers in the Richmond area, now anticipates doing a half million dollar food business by the end of 1954.

"We consider that ownership of this plant has established us more firmly in the food plan business. We are able to deliver a competent reliable food service for dealers and thereby make well-satisfied freezer owners.

"We believe that we have gained an advantage that no competitor can hope to match for at least five years," said Frank Newcomer, operating manager of the old Dominion firm.

An unusual feature is the large number of requests received from owners of competitive freezer brands to purchase their food through the Old Dominion plan.

In connection with its locker plant purchase, Old Dominion recently sponsored a contest among Amana dealers in the area to spur the sale of freezer food plans.

Dealer salesmen, who turned in approximately 650 retail sales in all during the two-month contest period, received prizes of Amana freezers for 18 or more sales each, the company announced.

Memphis Code--

(Concluded from Page 1, Col. 3)

tising of units in ton or part ton capacity, feeling this was misleading.

Under general practices, a so-called 1-ton unit is supposed to have a cooling capacity of 12,000 B.t.u. per hour. Some of the so-called ton units have but little more than 10,000 B.t.u. capacity.

Others of the 14 points adopted include accuracy of advertising with no intent to deceive, accurate definitions, make, year, model, and capacity shall be stated, and prices with illustrations shall refer to the illustration.

The 14 points also include the stipulation that advertising shall make clear any extra charge for featured equipment and, where installation is not included in the cost, the advertisement shall quote the price "plus installation." Any advertisement for free installation must include free installation.

The code also stipulates that no advertisement shall imply or state installation can be made without compliance with the city wiring requirements. Warranties must be specific.

"Trade-in allowances shall not be used to disguise a price cut. Restrictions also are placed on the manner in which comparative prices are advertised," it was stated.

Westinghouse Appoints Haynes to Sales Position

MANSFIELD, Ohio — The appointment of Dale C. Haynes as national sales representative was announced at Westinghouse Electric Appliance Div. headquarters here recently by S. J. Stephenson, manager of refrigerator-freezer department.

D. C. Haynes

In his new capacity, Haynes will serve as the sales department representative at the new Westinghouse refrigerator-freezer plant in Columbus, Ohio. Sales department headquarters will continue to be located at the Electric Appliance Div. headquarters in Mansfield.

Prior to joining Westinghouse in 1947, Haynes was an electrical engineer with the Newark Stove Co. in Newark, Ohio. Previous to accepting his new position, he was a staff assistant in the national accounts department.

Air Conditioned Auditorium Planned by Synagogue

CHARLESTON, S. C. — Complete winter and summer air conditioning for the main floor of the 600-seat auditorium is planned for the new Temple Emanu-El now being constructed on Gordon St. here. A balcony provides seating for 100 more persons.

The synagogue is being built by Skinner & Ruddock, general contractor. Milton Abrams is the architect, Robert L. Anderson the structural engineer, and William Leland the electrical engineer.

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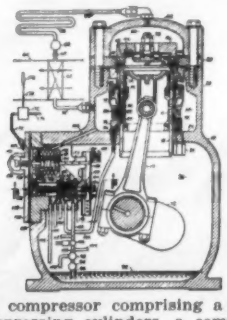
PATENTS

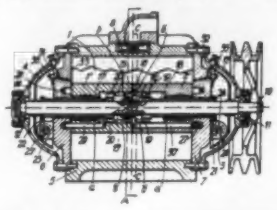
Week of March 23
(Concluded)

2,673,025. COMPRESSOR UNLOADING MEANS. Otto A. Labus, Emil T. Neubauer, and Robert G. Miner, La Crosse, Wis., assignors to The Trane Co., La Crosse, Wis. Application Nov. 14, 1949, Serial No. 127,616. 3 Claims. (Cl. 230—25.)



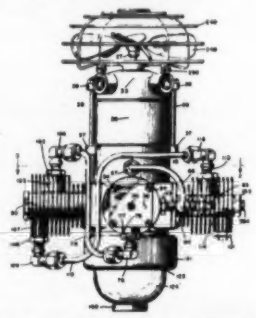
1. A compressor comprising a plurality of compressing cylinders, a common suction chamber and a common compression chamber, each of said compressing cylinders having associated therewith a suction valve through which gaseous medium may be admitted from said suction chamber and a discharge valve through which compressed gaseous medium may be discharged into said compression chamber, and spring means to force the suction valve to open position, fluid pressure means for overcoming said spring means, said fluid pressure means comprising an annular piston slidably mounted on the outer surface of said compressing cylinder in fluid sealing relationship therewith and providing an annular fluid chamber between said annular piston and the outer surface of said compressing cylinder, fluid pressure creating means, means comprising a valve for conducting said fluid pressure from said fluid pressure creating means to said annular fluid chamber, and means responsive to the pressure in said suction chamber for controlling said fluid pressure conducting valve to cut off the supply of fluid pressure to said annular fluid chamber.

2,673,027. ROTARY COMPRESSOR. Maximiliano Alvarez Lipkau, Barcelona, Spain. Application Nov. 1, 1950, Serial No. 193,330. Claims priority, application Spain Nov. 19, 1949. 6 Claims. (Cl. 230—144.)



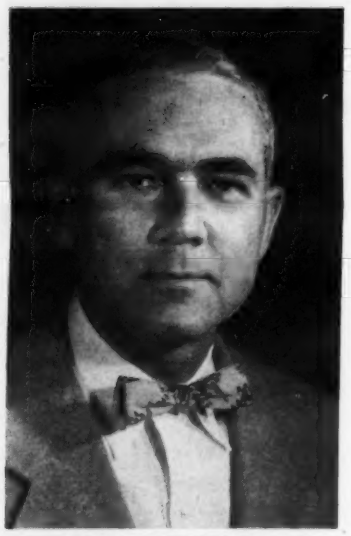
1. In a rotary compressor, the combination of a cylindrical casing having an inlet port and an outlet port; a pair of cover plates mounted on the ends of said casing, respectively, for closing said casing; a pair of hollow trunnions mounted on said plates, respectively, in said casing concentric therewith; a driving shaft passing through said trunnions and journaled in said casing; a pair of driven shafts journaled on said trunnions, respectively, means for connecting and disconnecting said driving shaft, alternately, with said driven shafts; and a pair of compressor blades mounted on said driven shafts, respectively, each of said blades extending axially of its shaft over the other shaft, and extending radially from its shaft to said casing, the ends of said blades extending to said plates, respectively, and the peripheral edges of said blades extending to said casing, said blades dividing the space between said driven shafts and said casing into two chambers of variable volume.

2,673,028. MOTOR-DRIVEN COMPRESSOR. Richard T. Cornelius, Minneapolis, and Nelson F. Cornelius, Anoka, Minn. Application July 16, 1951, Serial No. 236,986. 14 Claims. (Cl. 230—187.)



1. In a multiple stage compressor a crank case having a crank case chamber, a low pressure cylinder and a higher pressure cylinder, both having their inner ends communicating with said crank case chamber, pistons in said cylinders, crank means within said crank case chamber pivotally connected to and operating said pistons, an oil receptacle, oil distributing means including a conduit extending between said oil receptacle and said crank case chamber for delivering lubricating oil from the oil receptacle to the crank case chamber the oil in said crank case chamber being splashed into the inner end of said low pressure cylinder and equalizing means communicating with and equalizing the pressure on both sides of said low pressure cylinder during the suction stroke thereof.

NEW BUSINESS— NEW SUBSCRIPTION



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STATISTICS

Air Conditioning, Commercial Refrigeration Shipments 1949-1953 From Figures Collected by U. S. Bureau of the Census

Table 1—Air Conditioning Equipment and Components and Accessories for Air Conditioning and Refrigeration Equipment: Quantity and Value of Shipments, By Class of Product, 1949-1953

(Value Figures In Thousands of Dollars)

Class of Product	1953 No.	1953 Value	1952* No.	1952* Value	1951 No.	1951 Value	1950 No.	1950 Value	1949 No.	1949 Value
Condensing units, total	966,136	$ 74,013	654,223	$ 61,439	840,176	$75,672	885,913	$75,833	610,341	$53,534
Ammonia refrigerants	158	214	209	300	240	404	245	352	254	346
Refrigerants (except ammonia), total	965,978	73,799	654,014	61,139	839,936	75,268	885,668	75,481	610,087	53,188
Air-cooled	920,947	55,958	616,215	47,359	796,303	58,624	835,239	59,035	570,280	40,127
Water-cooled	45,031	17,841	37,799	13,780	43,633	16,644	50,429	16,446	39,807	13,061
Compressors and compressor units, total	2,380,739	121,054	1,677,300	71,047	1,051,937	56,669	954,368	46,977	604,431	29,929
Ammonia refrigerants	2,251	5,952	1,825	4,708	2,401	6,465	2,652	6,756	2,240	5,620
Refrigerants (except ammonia)	2,378,488	115,102	1,675,475	66,339	1,049,536	50,204	951,716	40,221	602,191	24,309
Heat-exchanger equipment, total	....	82,602	....	63,666	....	64,935	....	61,337	....	40,925
Evaporative condensers	5,508	8,647	4,873	7,179	6,216	8,652	7,818	8,869	4,798	5,850
Air conditioning units (not self-contained)†	59,682	18,918	43,399	14,344	33,263	14,636	29,704	11,671	30,044	7,997
Unit coolers, refrigeration	89,532	13,489	75,854	11,111	88,718	12,660	103,596	12,917	65,806	7,710
Other heat-exchanger equipment†	....	41,548	....	31,032	....	28,987	....	27,880	....	19,368
Self-contained air conditioning units, total	1,137,293	293,644	‡438,464	‡135,579	282,488	93,573	257,263	86,913	123,709	50,584
Window-sill type	1,017,699	191,129	372,064	70,323	228,964	42,442	187,224	31,373	78,454	14,425
Other than window-sill type	119,594	102,515	‡66,400	‡65,256	53,524	51,131	70,039	55,540	45,255	36,159
Other air conditioning and refrigeration equipment, total	....	61,567	....	§41,898	....	§36,537	....	n.a.	....	n.a.
Centrifugal refrigeration systems	469	14,970	363	14,040	441	15,300	382	12,249	285	8,189
Ice-making machines	28,228	14,385	26,693	12,838	12,998	8,804	14,914	8,907	6,902	4,641
Refrigeration chassis for air conditioning	20,363	10,298	‡6,396	‡2,706						
Year-round air conditioning units (self-contained, except heat pumps)	12,862	12,148	4,077	4,170	7,728	5,863	n.a.	n.a.	n.a.	n.a.
Heat pumps	986	1,613	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mechanical dehumidifiers, refrigeration type	90,551	6,151	89,152	6,431	75,659	4,731	n.a.	n.a.	n.a.	n.a.
Absorption and adsorption systems and equipment	213	2,002	119	1,713	138	1,839	¶	¶	¶	¶

*Revised.

n.a. Not available.

¶Withheld to avoid disclosing figures of individual companies.

†Represents unit coolers, air conditioning, for 1951 and earlier years. Also, data for surface dehumidifiers which for 1951 and earlier years were included with "Unit coolers, air conditioning" are included in "Other heat-exchanger equipment" for 1952 and 1953. Separate data for surface dehumidifiers are not available prior to 1952. (See Table 4 for detail on value of shipments of this item for 1952 and 1953.)

‡1952 data for self-contained air conditioning units designed especially for use in year-round air conditioning systems are included under "Refrigeration chassis for air conditioning."

§Does not include data for heat pumps which were not collected for years prior to 1953.

'53 Shipments--

(Concluded from Page 1)

for which separate shipment data are published for refrigeration chassis for air conditioning. These shipments totaled 20,363 units valued at $10,298,000.

The Census Bureau explained that the figures on quantity and value of shipments in this report represent completed sales of equipment, that is, units actually billed and shipped.

Complete units delivered on consignment or shipped to a branch warehouse for stock are not included until such time as they are actually sold. The dollar values shown are the manufacturers' net billing prices, f.o.b. factory.

Referring to the accompanying tables, Table 1 presents a historical summary of the quantity and value of shipments of air conditioning and refrigeration equipment by class of product for the period 1949 through 1953.

Table 2 shows the quantity and value of shipments of condensing units for 1952 and 1953.

Table 3 presents 1952 and 1953 data on quantity and value of shipments of compressors and compressor units, and number of compressor bodies manufactured. A compressor body is defined as the basic compressor castings.

Table 4 shows data on heat-exchanger equipment and Table 5 includes figures for self-contained air conditioning units and other types of air conditioning and refrigeration equipment.

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Condensing Unit Shipments for 1952-1953

Table 2—Condensing Units: Quantity and Value of Shipments, 1952 and 1953

(Value Figures In Thousands of Dollars)

Product	Number of companies reporting	1953 Shipments No.	1953 Shipments Value	1952* Shipments No.	1952* Shipments Value
CONDENSING UNITS TOTAL	....	966,136	$74,013	654,223	$61,439
Refrigerants (except ammonia),† total	....	965,978	73,799	654,014	61,139
Air-cooled, total	....	920,947	55,958	616,215	47,359
Open-type, total	22	68,065	10,393	93,050	13,726
⅛ hp. and under (except units for household refrigerators)	4	4,356	259	2,149	99
¼ hp.	16	7,256	506	12,196	882
⅓ hp.	16	13,092	1,058	18,961	1,554
½ hp.	16	13,712	1,549	19,903	2,288
¾ hp.	15	6,780	1,045	12,978	1,961
1 hp.	16	8,590	1,653	11,674	2,271
1½ hp.	16	4,764	1,209	5,612	1,406
2 hp.	17	5,295	1,508	5,475	1,629
3 and 5 hp.	17	4,220	1,606	4,102	1,636
Hermetic-type, total	13	852,882	45,565	523,165	33,633
⅛ hp. and under (except units for household refrigerators)	7	469,502	17,438	81,103	3,790
¼ hp.	11	159,953	8,581	208,379	13,078
⅓ hp.	11	120,839	7,346	166,019	9,195
½ hp.	12	56,161	4,794	44,481	3,633
¾ hp.	7	18,924	2,130	11,431	1,399
1 hp.	9	14,316	2,052	7,569	1,122
Over 1 hp.	7	13,187	3,224	4,183	1,416
Water-cooled, total	27	45,031	17,841	37,799	13,780
Open, total	....	23,606	11,806	29,946	11,935
⅛ hp. and under (except units for household refrigerators)	7	446	51	522	57
½ hp.	14	1,537	219	2,971	409
¾ hp.	14	2,436	459	3,070	498
1 hp.	15	2,875	579	3,842	763
1½ hp.	16	3,235	848	4,785	1,220
2 hp.	15	3,771	1,141	4,986	1,344
3 hp.	17	2,790	1,025	3,615	1,361
5 hp.	16	2,498	1,299	2,519	1,260
7½ hp.	16	833	585	1,021	724
10 hp.	14	687	656	793	764
15 hp.	11	831	995	611	732
20 hp.	10	367	625	313	531
25 hp.	9	379	690	266	469
30 hp.	10	228	436	162	321
40 hp.	10	227	559	203	486
50 hp.	6	199	584	79	242
60 hp.	7	110	324	80	275
75 hp.	5	157	731	73	301
Over 75 hp.				35	178
Hermetic, total	....	21,425	6,035	7,853	1,845
⅛ hp. and under (except units for household refrigerators)	4	2,231	280	1,136	141
¼ hp.					
⅓ hp.	5	2,515	381	1,826	253
¾ hp.					
1 hp.	4	3,070	531	1,195	202
1½ hp.	4	3,620	952	952	220
2 hp.	5	3,608	1,048	1,026	284
3 hp.	6	3,100	1,172	749	253
5 hp.	5	2,631	1,273	755	355
7½ hp.	5	650	398	214	137
Ammonia refrigerants (reciprocating water-cooled), total‡	8	158	214	209	300
5 hp. and under	8	69	53	46	40
7½ hp.				21	17
10 hp.	6	41	59	65	95
15 hp.	4	25	51	42	77
20 hp. and over	4	23	51	35	71

*Revised.

†Rating is the maximum horsepower for which a unit is catalogued corresponding to ASRE Groups I to IV conditions.

‡Rating is the maximum horsepower for which a unit is catalogued corresponding to ASRE Groups V to VIII conditions.

Compressors, Heat Exchangers, Refrigeration Air Conditioning Equipment Shipments '52-'53

Table 3—Compressors and Compressor Units: Quantity And Value of Shipments, 1952 and 1953

(Value Figures In Thousands of Dollars)

Product	1953 Shipments of Complete Units No.	1953 Shipments of Complete Units Value	1953 No. of Compressor Bodies Manufactured	1952 Shipments of Complete Units No.	1952 Shipments of Complete Units Value	1952 No. of Compressor Bodies Manufactured
COMPRESSORS AND COMPRESSOR UNITS, TOTAL	2,380,739	$121,054	3,959,313	1,677,300	$71,047	2,689,671
Refrigerants (except ammonia), total* (27)†	2,378,488	115,102	3,957,123	1,675,475	66,339	2,687,681
⅛ hp. and under (except) units for household refrigerators)			1,075,522			820,099
¼ hp.			700,826			722,934
⅓ hp.			465,202			426,758
½ hp.			342,022			164,158
¾ hp. (23)	2,370,538	102,901	802,037	1,668,395	56,442	318,377
1 hp.			352,319			113,640
1½ hp.			27,045			17,668
2 hp.			39,274			17,115
3 hp.			59,025			28,199
5 hp.			55,932			32,488
7½ hp.			21,834			14,943
10 hp. (14)	1,256	743	5,183	1,544	799	3,555
15 hp. (14)	1,395	1,244	3,412	1,307	1,042	2,092
20 hp. (12)	774	1,006	1,348	688	789	980
25 hp. (11)	1,383	1,650	1,939	1,173	1,477	1,586
30 hp. (9)	374	538		403	677	
40 hp. (12)	887	1,621		625	1,288	
50 hp. (11)	710	1,467		452	947	
60 hp. (12)	495	1,218	4,203	407	980	3,089
75 hp. (8)	269	960		183	596	
100 hp. (6)	244	1,034		201	813	
Over 100 hp. (5)	163	720		97	489	
Ammonia refrigerants, total† (14)	2,251	5,952	2,190	1,825	4,708	1,990
5 hp. and under (9)	276	150		159	113	
7½ hp. (7)	54	62		53	53	
10 hp. (10)	189	194		185	188	
15 hp. (10)	165	220		124	160	
20 hp. (10)	265	361		232	338	
25 hp. (7)	177	323		146	251	
30 hp. (9)	183	425		181	410	
40 hp. (7)	244	548	2,190	191	441	1,990
50 hp. (7)	146	404		159	516	
60 hp. (5)	180	558		120	403	
75 hp. (4)	114	421		71	271	
100 hp. (7)	90	429		83	423	
101 to 200 hp. (5)	126	944		97	746	
201 to 300 hp. (3)	19	242		24	395	
301 hp. and over (4)	23	671				

*Rating is the maximum horsepower for which a unit is catalogued corresponding to ASRE Groups I to IV conditions.

†Rating is the maximum horsepower for which a unit is catalogued corresponding to ASRE Groups V to VIII conditions.

Table 4—Heat-Exchanger Equipment: Quantity and Value of Shipments, 1952 and 1953

(Value Figures In Thousands of Dollars)

Product	Number of companies reporting	1953 Shipments No.	1953 Shipments Value	1952* Shipments No.	1952* Shipments Value
HEAT-EXCHANGER EQUIPMENT, TOTAL	....	....	$82,602	....	$63,666
Evaporative condensers, total†	31	5,508	8,647	4,873	7,179
5 tons and under	21	436	209	520	205
5.1 to 7.5 tons	19	385	170	396	178
7.6 to 10 tons	19	348	235	397	278
10.1 to 15 tons	25	619	513	525	456
15.1 to 20 tons	21	474	475	428	455
20.1 to 30 tons	23	866	1,072	762	998
30.1 to 50 tons	20	1,047	1,826	869	1,542
50.1 to 100 tons	20	1,223	3,491	873	2,517
Over 100 tons	10	110	656	103	550
Air conditioning units (not self-contained), total	26	59,682	18,918	43,399	14,344
Suitable for location below a window, total	9	39,120	4,541	23,817	2,789
Motor-driven fan type	9	14,829	2,242	‡	‡
Induced-air type	4	24,291	2,299	‡	‡
All others, total	26	20,562	14,377	19,582	11,555
3 tons and under	17	7,856	1,982	8,825	1,427
3.1 to 5 tons	18	2,582	1,013	2,128	766
5.1 to 10 tons	19	3,021	1,665	2,738	1,620
10.1 to 25 tons	19	3,520	3,372	3,256	3,336
25.1 to 50 tons	16	2,739	4,063	2,186	3,405
Over 50 tons	8	844	2,282	449	1,001
Unit coolers, refrigeration, total§	....	89,532	13,489	75,854	11,111
Ceiling and wall-mounted, total	26	86,531	9,017	73,248	7,512
2,000 B.t.u./hr. and under	10	20,621	705	13,900	448
2,001 to 4,000 B.t.u./hr.	11	16,307	939	13,603	740
4,001 to 6,000 B.t.u./hr.	14	10,494	975	10,371	908
6,001 to 8,000 B.t.u./hr.	13	8,461	1,002	9,089	933
8,001 to 12,000 B.t.u./hr.	17	10,991	1,484	9,390	1,303
12,001 to 18,000 B.t.u./hr.	16	11,432	1,745	10,197	1,532
Over 18,000 B.t.u./hr.	16	8,225	2,167	6,698	1,648
Floor-mounted dry-type, total	18	2,131	2,810	1,944	2,373
5 tons and under	12	773	693	633	552
5.1 to 7.5 tons	15	505	465	520	521
7.6 to 10 tons	12	323	356	298	282
10.1 to 15 tons	12	195	368	224	362
Over 15 tons	7	335	928	269	656
Floor-mounted spray-type, total	10	870	1,662	662	1,226
5 tons and under	5	211	164	187	131
5.1 to 7.5 tons	6	75	73	73	88
7.6 to 10 tons	8	515	1,239	270	711
10.1 to 15 tons				73	127
Over 15 tons	4	69	186	59	169
Other heat-exchanger equipment, total	....	....	41,548	....	31,032
Condensers, shell and tube and shell and coil	22	....	8,486	....	6,656
Shell and tube liquid coolers	13	....	3,255	....	2,756
Shell and coil liquid coolers	7	....	1,687	....	1,699
Fin coils—steam (other than forced-air units)	26	....	6,580	....	5,249
Fin coils—water (other than forced-air units)	24	....	5,212	....	4,862
Fin coils—direct expansion (except bunk gravity-type refrigeration coils)	32	....	9,432	....	4,628
Plate-type evaporators (including bunker gravity-type refrigeration coils)	12	....	5,704	....	4,309
Surface dehumidifiers	6	....	1,192	....	873

*Revised.

†Rating is the refrigeration condensing tonnage at 40° F. suction, 105° F. condensing temperature, and 78° wet bulb, entering air temperature with normal air quantity through unit.

‡Not shown separately to avoid disclosing figures of individual companies.

§Rating is based on normal air quantity, with refrigerant temperature at 15° F. and air entering at 35° F. dry bulb and 85% relative humidity.

Table 5—Self-Contained Air Conditioning Units and Other Air Conditioning and Refrigeration Equipment: Quantity And Value of Shipments, 1952 and 1953

(Value Figures In Thousands of Dollars)

Product	Number of companies reporting	1953 Shipments No.	1953 Shipments Value	1952* Shipments No.	1952* Shipments Value
SELF-CONTAINED AIR CONDITIONING UNITS, TOTAL†	....	1,137,293	$293,644	438,464	$135,579
Window-sill type, total	35	1,017,699	191,129	372,064	70,323
⅓ hp. and under	12	45,065	5,641	19,472	2,337
½ hp.	24	171,355	27,293	60,641	10,050
¾ hp.	34	588,570	109,524	227,664	43,100
Over ¾ hp.	22	212,709	48,671	64,287	14,836
Other than window-sill type, total†	35	119,594	102,515	66,400	65,256
Under 1 hp.	4	13,803	3,019	4,786	1,806
1 hp.	5	8,664	2,902		
1½ hp.	5	4,525	2,173	3,559	1,802
2 tons	22	6,904	4,025	2,488	1,395
3 tons	28	22,101	15,116	14,340	10,087
5 tons	27	36,347	32,876	22,801	21,269
7.5 tons	23	16,802	20,448	12,159	15,241
10 tons	18	5,995	10,207	3,765	6,549
15 tons	16	3,432	8,056	1,761	4,340
20 tons	10	641	2,030	422	1,323
Over 20 tons	8	380	1,663	319	1,444
OTHER AIR CONDITIONING & REFRIGERATION EQUIPMENT, TOTAL	....	....	61,567	....	41,898
Centrifugal refrigeration systems (water and brine-chilling), total‡	4	469	14,970	363	14,040
100 hp. and under	4	160	3,149	40	612
101 to 200 hp.				66	1,681
201 to 300 hp.	3	92	2,607	89	2,656
301 to 400 hp.	3	84	2,576	47	1,769
401 to 500 hp.	3	56	2,293	28	1,237
Over 500 hp.	3	77	4,345	93	6,085
Ice-making machines, total	16	28,228	14,385	26,693	12,838
Packaged (self-contained)	14	26,699	13,677	24,693	12,179
All others (not self-contained)	8	1,529	708	2,000	659
Refrigeration chassis for air conditioning§	9	20,363	10,298	6,396	2,706
Year-round air conditioning units (self-contained, except heat pumps)¶	6	12,862	12,148	4,077	4,170
Heat pumps	5	986	1,613	n.a.	n.a.
Mechanical dehumidifiers, refrigeration-type	16	90,551	6,151	89,152	6,481
Absorption and adsorption systems and equipment	4	213	2,002	119	1,713

*Revised.

n.a. Not available.

†Rating is based on maximum compressor and fan speeds with air entering evaporator at 80° F. dry bulb and 67° F. wet bulb and condenser water entering at 75° F. and leaving at 95° F., or air entering air-cooled condenser at 95° F. dry bulb. See also footnote ‡, Table 1.

‡Rating is the maximum horsepower for which the unit is rated. Of the centrifugal refrigeration systems shipped in 1953, a total of 469 valued at $12,722,550 were water-chilling type above 32° F. and 57 valued at $2,247,220 were brine-chilling type below 32° F. The corresponding figures for 1952 were 322 units valued at $11,772,000 for water-chilling types above 32° F. and 41 units valued at $2,268,000 for brine-chilling type under 32° F.

§For 1952 these units were reported as "Year-round air conditioning units (self-contained, except heat pumps), without self-contained furnaces." See also footnote ‡, Table 1.

¶For 1952, these units were reported as "Year-round air conditioning units (self-contained, except heat pumps), with self-contained furnace."

Grand Rapids Brass Retains Sakhnoffsky as Designer

GRAND RAPIDS, Mich.—Grand Rapids Brass Co. announced recently that it has retained Col. Alexis de Sakhnoffsky, noted industrial designer, to consult with customers on design and styling problems.

The company said that the engineering background of Sakhnoffsky, who came to this country from Europe in 1928, has helped develop many best sellers for the appliance, automotive, furniture, and machinery industries. His present accounts cover a wide variety of products in metal, plastic, and wood.

Walsh Represents Unarco In Albany, Eastern N. Y.

CHICAGO—Avery M. Walsh & Sons, East Greenbush, N. Y., has been appointed sales representative for "Unarco" heating and air conditioning equipment for Albany and the eastern New York area.

Originally an asbestos insulation contractor, Avery Walsh organized his present firm in Albany 20 years ago, and with his two sons, Robert and Harold, is widely known in the heating and ventilating business.

The company will represent Unarco heating and cooling products in New York north of Westchester county and east of Syracuse. A branch office, headed by Harold E. Walsh, is maintained in Syracuse.

PROJECT MANAGER for MECHANICAL CONTRACTOR

Top, well paying position for qualified man with extensive experience on large size air conditioning jobs. Must be thoroughly familiar with job operations, labor, subcontracting. Knowledge of piping installation essential. Write, giving complete personal data, including education, experience and salary requirements. Confidential.

BOX A5006, Air Conditioning & Refrigeration News.

Norge Names Ruff Head Of Marketing Research

CHICAGO — Appointment of James Ruff to the new position of director of marketing research for the Norge Div. of Borg-Warner Corp. was announced recently by R. C. Connell, director of sales.

James Ruff

The position was created, connell said, because of the company's decision "to place greater emphasis and dependence upon marketing research activities, particularly as they contribute to the formation of sales policy and as they aid in the evaluation and control of field sales and merchandising programs."

Ruff was director of market research for Apex Electrical Mfg. Co., Cleveland, before appointment to his new position. Previously, he was assistant manager of market research for the appliance and electronics division of the Avco Mfg. Corp., Cincinnati.

He also held positions in the market research department of Bendix Home Appliances, Inc., both before and after that company's absorption as an Avco operating division.

Ruff is a member of the American Marketing Association. He graduated from the University of Notre Dame in 1947.

To Cool Sterling House

KNOXVILLE, Tenn.—The Sterling House, women's apparel, is enlarging and redecorating its store at 609-11 Market St. Air conditioning is being installed.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

QUALIFIED SALES engineer. Calling on all servicemen, restaurant, bakery and wholesale supply houses Los Angeles to Oregon. Direct factory man. Open for sideline. Employer and trade notified. Bondable, permanent, reliable. Reply fully, absolute confidence assured. R. ADAMS, 626 Congress, Pacific Grove, California.

WANTED: TO associate with well known air conditioning manufacturer in territory preferably located southeast part of country. The age is 30 but experience includes district manager for major air conditioning manufacturer, district manager for hydraulics manufacturer, present position being sales manager for large company. Income past year $10,000. Can arrange to interview any place. BOX A5011, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

EXPERIENCED AIR conditioning, heating and ventilation man required for our maintenance department. All new equipment with ultra-modern facilities. Plant located in the northeastern section of Detroit. This is a steady year-round job with excellent wages, retirement plan, group and local insurance. Call JEfferson 6-2500, extension 2213, GENERAL MOTORS TECHNICAL CENTER.

SALES MANAGER—Refrigeration air conditioning products for manufacturer automatic controls. Location, California. Please give us age and salary requirements. BOX A5002, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE to call on refrigeration parts and equipment wholesalers. Complete line of nationally advertised chemical products for refrigeration and air conditioning industry. Sales already proven. Give complete details as to experience and territory you cover in first letter; include lines now represented. BOX A5008, Air Conditioning & Refrigeration News.

FACTORY REPRESENTATIVES wanted. National manufacturer of soda fountains and food service equipment now selling restaurant equipment and commercial refrigeration dealers have several valuable and productive territories open. Write fully stating experience, lines handled and territory covered. All replies confidential. Write BOX A5013, Air Conditioning & Refrigeration News.

WE NEED a district sales manager, possibly one who is now selling condensing units, coils, etc., to many of the better distributors and dealers in Kentucky and Tennessee. We manufacture commercial display and storage refrigerators and our company is growing on the sound basis of a good product and personalized attention to the needs of our field organization. A national direct mail program and store planning service are two of the major assists we furnish. It may be we have something you've been looking for, something that will enable you to use your time and ability to even more profitable advantage. BOX A5014, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVES wanted for quality, low cost, nationally known natural and mechanical draft cooling towers from 2 tons to 105 tons, in New York, New Jersey, and Connecticut. Advise present lines; resume of qualifications. BOX A5015, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NATIONALLY KNOWN ¾ hp twin-cylinder compressor bodies with flywheel and service valve, reduced to $30.00. Also 1 hp at $33.00. 1-½ hp 220 volt complete motor compressor assembly with service valve, specially priced at $75.00. ¾ hp 115 volt flat base compressor units, complete with receiver, now $135.00. Limited supply of ⅙ hp fan-cooled hermetic units still available at $34.00. All equipment new, all fully guaranteed. Send orders to MANN REFRIGERATION SUPPLY CO., 440 Lafayette St., New York City, or phone GRamercy 3-8000.

ATTENTION SERVICEMEN: Send for our refrigeration parts and supplies catalog. Save up to 50% on many items. Relays, V belts, T.X. valves, fittings, controls, driers. New—guaranteed merchandise. WALTER W. STARR REFRIGERATION, 2833 Lincoln Avenue, Chicago 13, Illinois.

HOT WIRE relays—Special, brand new and boxed. Available in ¼, ⅜, ¼, ⅛, 1/12 h.p. sizes. Price $2.25 each FOB New York, New York. UNITED CONTROL REPAIR CO., 342 W. 70 Street, New York 23, New York.

WANTED TO BARTER

HAVE 7 YORK top section models 450 and 450A in good working order and several bins—will trade for Ajax Ice Machines models A5A-2 or A5A-4 units or Frigidaire cuber. Please advice serial numbers and particulars. AUTOMATIC COOLING & HEATING COMPANY, 6734 Central Avenue, St. Petersburg, Florida.

MISCELLANEOUS

EDUCATION-TRAINING in refrigeration, air conditioning and heating. A full program leading to an Associate in Engineering diploma. The course is available either in day or evening school. Veterans benefits. For particulars phone or write LAWRENCE INSTITUTE OF TECHNOLOGY, 15100 Woodward Avenue, Detroit 3, Michigan.

W. E. Saylor

H. A. Willis

Kelvinator Appoints--

(Concluded from Page 1, Col. 4)

Willis joined Kelvinator in 1944 as supervisor of commercial advertising.

He also served as manager of electric range advertising and in 1947 he was named electric range and water heater sales manager.

Since 1951 he has been supervising national advertising.

Air Conditioning Protects Notre Dame Art Collection

SOUTH BEND, Ind.—One of the nation's great art collections is now being preserved and protected by air conditioning.

Two 25-ton Servel water chillers have been installed as the heart of the air conditioning system in O'Shaughnessy Hall of Liberal and Fine Arts at the University of Notre Dame located in South Bend.

They are operated by steam from a central power plant.

The water chillers provide the temperature and humidity control necessary to preserve the priceless art treasures in five galleries and in the storage room. Zone control is employed throughout the conditioned area.

The collection, valued in excess of $1,500,000, includes 355 paintings. Among them are several fine examples of 15th and 16th century Christian art, including many old Italian masters. Flemish, German, English, Spanish, and American artists are also represented in the group.

Since the dedication of O'Shaughnessy Hall in May, 1953, the galleries have become a center for revived student interest in fine arts, and also a mecca for art lovers from the northern Indiana-southern Michigan area.

100° Temp. Keeps Visitors From Seeing N. Y. C. Art

NEW YORK CITY—A reader of *The New York Times* recently complained to the editor that "we urge visitors to come to our city during the summer" but "deny them the pleasure of visiting one of our star attractions by failing to install air conditioning in our greatest museum."

"There are 700 great works of art which cannot be enjoyed during the summer months," she wrote, "because the temperature in the 44 newly-opened galleries on the second floor of the Metropolitan Museum of Art frequently exceeds 100°."

Brown Resigns as Sales Coordinator at Manitowoc; Hannon Gen. Sales Mgr.

MANITOWOC, Wis. — Officials of the Manitowoc Equipment Works announced recently the resignation of Erle S. Brown, sales coordinator.

They stated that the resignation was accepted with regret and that Brown's decision was dictated by personal reasons. It is understood that his plans are not yet final and that he plans to relocate in the South or Southwest.

Thomas F. Hannon, formerly vice president and general manager of Ryan Refrigeration Co., has been named general sales manager to succeed Brown.

Brown had been with the Manitowoc company, a major shipbuilder on the Great Lakes, for over 12 years and with the Manitowoc Equipment Works division since its inception in 1945.

He held successive positions in purchasing, office and personnel management, and since 1951 had been directly responsible for development of sales and advertising.

RISAC--

(Concluded from Page 1, Col. 4)

are being transferred from New York to Washington, D. C., where they will be located in the same space occupied by ARI at 1346 Connecticut Ave., N.W.

"Strong brings to this new assignment a wealth of experience in engineering and application of air conditioning and refrigeration equipment, having spent 25 years with Carrier Corp. in the field and operating out of the home office," the announcement said.

"He has served for several years as chairman of the Refrigeration Safety Advisory Committee and thus is very familiar with its objectives and its results to date."

Chattanooga Judge Decrees No Cooling—No Court

CHATTANOOGA, Tenn. — Federal Judge Leslie R. Darr, still wearing his heavy black judicial robes, asserted from the bench here that "if the government does not see fit to install air conditioning in this courtroom by next summer, I do not intend to hold court in either July or August."

Judge Darr allowed the gentlemen of the jury to remove their coats one day recently because of the intense heat of the courtroom.

It was said to be the second time in his almost 28 years on the Federal bench that he had permitted such action. The Weather Bureau reported a high temperature of 97° at 3:30 and 4:30 p.m.

Court officers and attorneys, however, were not included in Judge Darr's action.

Meanwhile, court officers said discussions have been held covering air conditioning the courtroom but "little progress" has been made.

RACCA, UA Meet--

(Concluded from Page 1, Col. 3)

Miami; Warren W. Farr of Cleveland; Harvey W. Hottel of Washington, D. C.; Harvey O. Miller of Chicago; and Lee J. Quinn of Cincinnati.

The United Association members are Edward J. Hillock, Leo A. Green, John J. McCartin, Robert F. Lynch, Wendell J. Straight.

Ray Kromer, executive vice president of RACCA, was named as executive secretary of the committee and authorized to establish an executive office to be located in Cleveland.

The subcommittee meeting Aug. 2 will be the first of regular monthly meetings scheduled for the first six months "to develop sound programs and procedures through correlation on local problems."

Early this year RACCA announced plans for a "Qualified Contractor" program with participation by contractor, manufacturer, and labor elements which involved a cooperative advertising effort for public education on the value of dealing with qualified contractors, as well as an apprentice program and engineers training program.

It is believed that some of the objectives sought in the Qualified Contractor program will be included in the RACCA-UA proposed cooperative effort.

G-E Air Conditioning Div. Sets Record In 1st Half; Sales Up 71%

BLOOMFIELD, N. J.—The best first half on record was reported recently by the General Electric Co.'s Air Conditioning Div. F. J. Van Poppelen, division general manager, revealed that sales billed were up 71% over the first half of 1953, the division's previous record year.

The G-E official predicted that his division's sales for the entire year would be substantially higher than those of 1953. Van Poppelen said, "a heavy backlog of orders is already on our books. These orders will be reflected in second half shipments."

Announcing the G-E increase, Van Poppelen said, "The basic vitality of the air conditioning industry is being demonstrated by generally increased sales throughout the industry in the face of an unseasonably cool spring and late summer.

"In our own case, General Electric has found that the growing acceptance of central home cooling and commercial packaged air conditioning can easily override seasonal factors. When this acceptance is coupled with a high rate of building activity as it has been this year, we find that the combination is unbeatable," Van Poppelen concluded.

'Anti-Bootleg' Bill--

(Concluded from Page 1, Col. 2)

ers to unauthorized sellers, declared that manufacturers would have to show some support for this type of legislation before it would have much chance of passage by Congress.

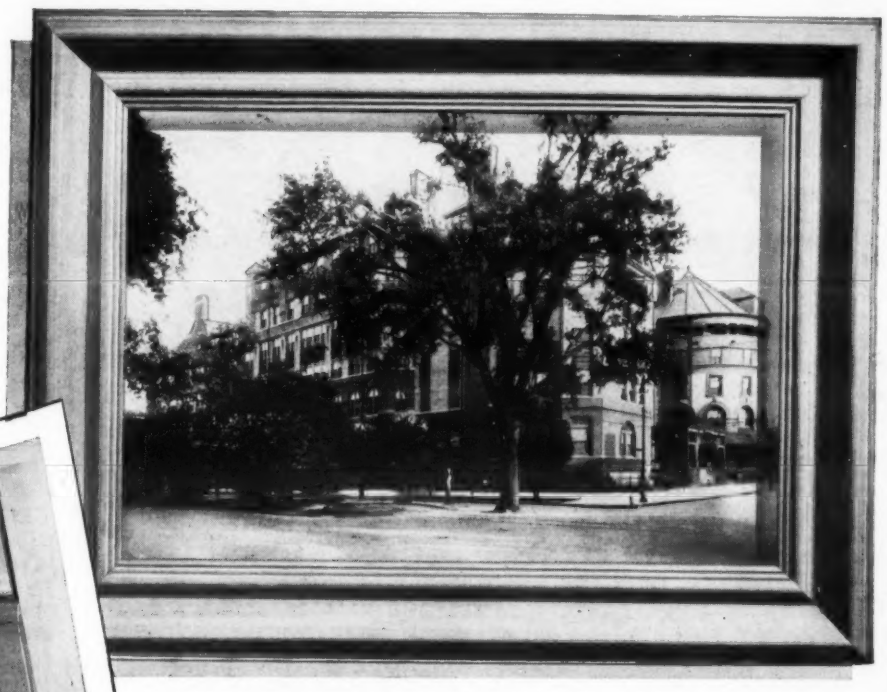
Hinshaw also hinted that future hearings on such legislation might get into a probe of manufacturers' franchise policies.

The Department of Justice, in a communication to the Senate, declared that the proposed legislation would lend "disorder and confusion" to the existing anti-trust laws.

Such bills should not be passed, said the statement, because they would "carve out a special exemption from the anti-trust laws" for only one part of the distribution setup of a single industry." If such a bill went through, "the way would be cleared for countless appeals to Congress by every industry group with a real or fancied problem created by intensified competition, the communication continued.

"The Department of Justice does not believe that current competitive conditions in the automobile industry present a reasonable justification for tampering with the anti-trust laws by granting special preferential exemptions to the American standard of a free and vigorous economy," according to the department.

HOTEL DESOTO
SAVANNAH, GEORGIA

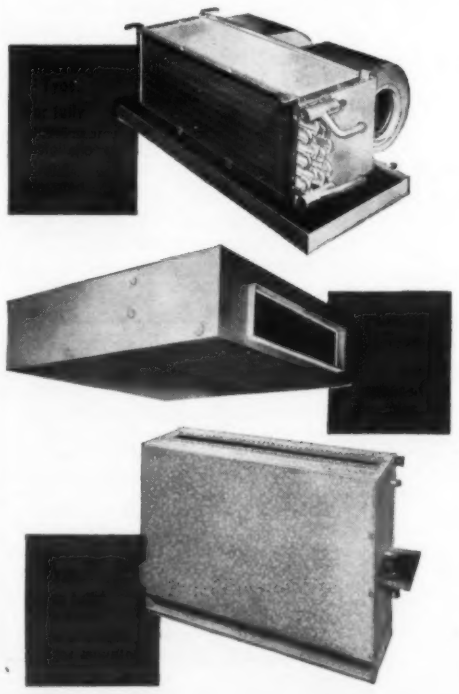


Floor Type, installed in the hotel lobby. For free standing mounting along walls or beneath windows.

When the management decided to modernize Hotel DeSoto, Savannah, Ga., air conditioning, naturally, was one of the first considerations. J. Garnett Andrews, chairman of the board, and Charles G. Day, president, selected Mingledorff's Inc. as their air conditioning contractor. Through Savannah Refrigeration Supply, Inc., the local McQuay wholesaler, Mingledorff's purchased 183 McQuay Seasonmakers. Their installation assures Hotel DeSoto's guests of individual room air conditioning at its best.

Modernized with McQuay Seasonmakers

INDIVIDUAL ROOM AIR CONDITIONERS



● Famous McQuay Seasonmakers have made the luxury of individual room air conditioning practical for any multi-room building . . . for new or old construction . . . for hotels, tourist courts, apartment houses, office buildings, institutions and residences—wherever the best in air conditioning comfort is demanded.

Four types in three different sizes, 200, 400 and 600 CFM, simplifies your job of selecting a unit that will meet set requirements such as Floor type for free standing, Ceiling type for suspended mounting, Basic type for fully recessed wall installations as well as Hideaway type for concealed mountings in furred ceilings, closets, or vestibules. Quiet operation and flexible design allows you to select the correct unit for any job.

Exclusive Ripple-Fin coil construction assures long life and dependable service. Designed for easy installation and maintenance. Get complete details on features and specifications in Bulletin 703. Representatives in principal cities or write McQuay Inc., 1607 Broadway N.E., Minneapolis 13, Minnesota.

McQuay INC.

★ AIR CONDITIONING ★ REFRIGERATION ★ HEATING

Large compressor manufacturing company has opening for experienced man to head expanded engineering department. Experience in compressor design and manufacturing essential. Include complete resume and photograph in first letter. Box A5012, Air Conditioning & Refrigeration News.

XUM